#500

SAM II BANAT

Earth Science

78-098A-06B

ESAD 00063

Table of Contents

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1. INTRODUCTION:

The documentation for this data set was originally on paper, kept in NSSDC's Data Set Catalogs (DSCs). The paper documentation in the Data Set Catalogs have been made into digital images, and then collected into a single PDF file for each Data Set Catalog. The inventory information in these DSCs is current as of July 1, 2004. This inventory information is now no longer maintained in the DSCs, but is now managed in the inventory part of the NSSDC information system. The information existing in the DSCs is now not needed for locating the data files, but we did not remove that inventory information.

The offline tape datasets have now been migrated from the original magnetic tape to Archival Information Packages (AIP's).

A prior restoration may have been done on data sets, if a requestor of this data set has questions; they should send an inquiry to the request office to see if additional information exists.

2. ERRATA/CHANGE LOG:

NOTE: Changes are made in a text box, and will show up that way when displayed on screen with a PDF reader.

When printing, special settings may be required to make the text box appear on the printed output.

Version	Date	Person	Page	Description of Change
01				
02				

3 LINKS TO RELEVANT INFORMATION IN THE ONLINE NSSDC INFORMATION SYSTEM:

http://nssdc.gsfc.nasa.gov/nmc/

[NOTE: This link will take you to the main page of the NSSDC Master Catalog. There you will be able to perform searches to find additional information]

4. CATALOG MATERIALS:

a. Associated Documents To find associated documents you will need to know the document ID number and then click here. http://nssdcftp.gsfc.nasa.gov/miscellaneous/documents/

b. Core Catalog Materials

NIMBUS 7

SAM II BANAT

78-098A-06B ESAD-00063

THIS DATA SET HAS BEEN RESTORED. ORIGINALLY IT CONTAINED 169 9-TRACK, 1600 BPI TAPES WRITTEN IN BINARY WITH AN EBCDIC HEADER AND TRAILER FILE. THERE ARE FIVE RESTORED TAPES. THE DR TAPES ARE 3480 CARTRIDGES AND THE DS TAPES ARE 9-TRACK, 6250 BPI. THE ORIGINAL TAPES WERE CREATED ON A CDC 6600 COMPUTER AND THEY WERE RESTORED ON THE MRS SYSTEM. THE DR AND DS NUMBERS ALONG WITH THE CORRESPONDING D NUMBERS AND THE TIME SPANS ARE AS FOLLOWS:

DR#	DS#	D#	FILES	TIME SPAN
DR004566	DS004566	D047134	1-32	11/01/78 - 11/30/78
		D047135	33-65	12/01/78 - 12/31/78
		D047136	66-98	01/01/79 - 01/31/79
		D047137	99-128	02/01/79 - 02/28/79
		D047138	129-161	03/01/79 - 03/31/79
		D047139	162-193	04/01/79 - 04/30/79
		D047140	194-226	05/01/79 - 05/31/79
		D046908	227-258	06/01/79 - 06/30/79
		D046909	259-291	07/01/79 - 07/31/79
		D047141	292-324	08/01/79 - 08/31/79
		D047142	325-356	09/01/79 - 09/30/79
		D047143	357-389	10/01/79 - 10/31/79
		D046766	390-421	11/01/79 - 11/30/79
		D046201	422-454	12/01/79 - 12/31/79
		D046767	455-487	01/01/80 - 01/31/80
		D046768	488-518	02/01/80 - 02/29/80
		D046769	519-551	03/01/80 - 03/31/80
		D046770	552-583	04/01/80 - 04/30/80
		D047233	584-616	05/01/80 - 05/31/80
		D046771	617-648	06/01/80 - 06/30/80
		D046772	649-681	07/01/80 - 07/31/80
		D046773	682-714	08/01/80 - 08/31/80
		D046774	715-746	09/01/80 - 09/30/80
		D046775	747-779	10/01/80 - 10/31/80
		D059740	780-812	11/01/80 - 12/01/80
		D059741	813-846	12/01/80 - 12/31/80
		D059742	847-880	01/01/81 - 02/01/81
		D059743	881-911	02/01/81 - 03/01/81
		D048022	912-945	03/01/81 - 04/01/81
		D048023	946-978	04/01/81 - 05/01/81
		D048024	979-1012	05/01/81 - 06/01/81
		D048025	1013-1045	06/01/81 - 07/01/81

DR#	DS#	D#	FILES	TIME SPAN
DR004567	DS004567	D048026	1-34	07/01/81 - 07/31/81
		D048027	35-68	08/01/81 - 09/01/81
		D048028	69-101	09/01/81 - 09/30/81
		D048029	102-135	10/01/81 - 11/01/81
		D059914	136-168	11/01/81 - 11/30/81
		D059915	169-202	12/01/81 - 01/01/82
		D059916	203-236	01/01/82 - 01/31/82
		D059917	237-267	02/01/82 - 02/28/82
		D059918	268-301	03/01/82 - 04/01/82
		D059919	302-334	04/01/82 - 04/30/82
		D059920	335-368	05/01/82 - 06/01/82
		D059921	369-401	06/01/82 - 07/01/82
		D059922	402-435	07/01/82 - 08/01/82
		D059923	436-469	08/01/82 - 09/01/82
		D059924	470-502	09/01/82 - 09/30/82
		D059925	503-536	10/01/82 - 11/01/82
		D064795	537-569	11/01/82 - 11/30/82
		D065146	570-603	12/01/82 - 12/31/82
		D064796	604-637	01/01/83 - 01/31/83
		D064797	638-668	02/01/83 - 02/28/83
		D064798	669-702	03/01/83 - 03/31/83
		D064799	703-735	04/01/83 - 04/30/83
		D064800	736-769	05/01/83 - 05/31/83
		D064801	770-802	06/01/83 - 06/30/83
		D064802	803-836	07/01/83 - 07/31/83
		D064803	837-870	08/01/83 - 08/31/83
		D064804	871-903	09/01/83 - 09/30/83
		D064805	904-937	10/01/83 - 10/31/83
DR004568	DS004568	D073115	1-33	11/01/83 - 12/01/83
		D073116	34-67	12/01/83 - 01/01/84
		D073117	68-101	01/01/84 - 02/01/84
		D073118	102-133	02/01/84 - 03/01/84
		D073119	134-167	03/01/84 - 03/31/84
		D073120	168-200	04/01/84 - 05/01/84
		D073121	201-234	05/01/84 - 06/01/84
		D073122	235-267	06/01/84 - 06/30/84
		D073123	268-301	07/01/84 - 08/01/84
		D073124	302-335	08/01/84 - 08/31/84
		D073125	336-368	09/01/84 - 10/01/84
		D073126	369-402	10/01/84 - 11/01/84
		D073618	403-435	11/01/84 - 11/30/84
		D073619	436-469	12/01/84 - 01/01/85
		D073620	470-503	01/01/85 - 02/01/85
		D073621	504-534	02/01/85 - 03/01/85
		D073622	535-568	03/01/85 - 04/01/85
		D073623	569-601	04/01/85 - 05/01/85
		D073624	602-635	05/01/85 - 05/31/85
		D073625	636-668	06/01/85 - 07/01/85
		D073626	669-702	07/01/85 - 08/01/85
		D073627	703-736	08/01/85 - 09/01/85
		D073628	737-769	09/01/85 - 10/01/85
		D073629	770-803	10/01/85 - 10/31/85
		D075299	804-836	11/01/85 - 11/29/85
		D075300	837-870	12/01/85 - 12/30/85
		D075292	871-904	01/01/86 - 01/30/86
		D075293	905-935	02/01/86 - 02/27/86

DR#	DS#	D#	FILES	TIME SPAN
DR004568 CON'T.	DS004568	D076309	936-969	03/01/86 - 03/30/86
		D075294	970-1002	04/01/86 - 04/29/86
		D075295	1003-1036	05/01/86 - 05/30/86
		D075910	1037-1069	06/01/86 - 06/30/86
		D075296	1070-1103	07/01/86 - 07/30/86
		D075297	1104-1137	08/01/86 - 08/30/86
		D075298	1138-1170	09/01/86 - 09/29/86
		D075498	1171-1203	10/01/86 - 10/29/86
DR004569	DS004569	D076310	1-33	11/01/86 - 11/29/86
		D076311	34-67	12/01/86 - 12/30/86
		D076312	68-101	01/01/87 - 01/30/87
		D078708	102-132	02/01/87 - 03/01/87
		D078709	133-166	03/01/87 - 04/01/87
		D078710	167-199	04/01/87 - 04/30/87
		D079582	200-233	05/01/87 - 06/01/87
		D079583	234-266	06/01/87 - 07/01/87
		D079584	267-300	07/01/87 - 08/01/87
		D079585	301-334	08/01/87 - 09/01/87
		D079586	335-367	09/01/87 - 10/01/87
		D079587	368-401	10/01/87 - 11/01/87
		D079805	402-434	11/01/87 - 12/01/87
		D079806	435-468	12/01/87 - 12/31/87
		D079807	469-502	01/01/88 - 02/01/88
		D079808	503-534	02/01/88 - 03/01/88
		D079809	535-568	03/01/88 - 03/31/88
		D079810	569-601	04/01/88 - 05/01/88
		D079811	602-635	05/01/88 - 06/01/88
		D079812	636-668	06/01/88 - 06/30/88
		D079813	669-702	07/01/88 - 08/01/88
		D079814	703-736	08/01/88 - 08/31/88
		D079815	737-769	09/01/88 - 09/30/88
		D079816	770-803	10/01/88 - 11/01/88
		D079817	804-836	11/01/88 - 12/01/88
		D079818	837-870	12/01/88 - 12/31/88
		D079819	871-904	01/01/89 - 02/01/89
		D079867	905-935	02/01/89 - 03/01/89
		D079868	936-969	03/01/89 - 03/31/89
		D079869	970-1002	04/01/89 - 05/01/89
		D082220	1003-1036	05/01/89 - 06/01/89
		D082221	1037-1069	06/01/89 - 06/30/89
		D082222	1070-1103	07/01/89 - 08/01/89
		D082223	1104-1137	08/01/89 - 09/01/89
		D082224	1138-1170	09/01/89 - 09/30/89
DR004570	DS004570	D082225	1-34	10/01/89 - 11/01/89
		D082228	35-67	11/01/89 - 12/01/89
		D082229	68-101	12/01/89 - 12/31/89
		D082230	102-135	01/01/90 - 02/01/90
		D082231	136-166	02/01/90 - 02/28/90
		D082232	167-200	03/01/90 - 04/01/90
		D082233	201-233	04/01/90 - 04/30/90
		D082877	234-267	04/30/90 - 05/30/90
		D082878	268-300	05/31/90 - 06/30/90
		D082879	301-334	06/30/90 - 07/31/90
		D082880	335-368	07/31/90 - 08/30/90
		D082881	369-401	08/31/90 - 09/29/90
		D082882	402-435	09/30/90 - 10/31/90
		D087151	436-468	11/01/90 - 12/01/90
		D087152	469-502	12/01/90 - 12/31/90

DR#	DS#	D#	FILES	TIME SPAN
DR004570 CON'T.	DS004570	D087153	503-536	01/01/91 - 02/01/91
		D087154	537-567	02/01/91 - 03/01/91
		D087155	568-601	03/01/91 - 04/01/91
		D087156	602-627	04/01/91 - 05/01/91
		D087157	628-661	05/01/91 - 05/31/91
		D087158	662-694	06/01/91 - 07/01/91
		D087159	695-728	07/01/91 - 08/01/91
		D087160	729-762	08/01/91 - 08/31/91
		D087161	763-795	09/01/91 - 09/30/91
		D087162	796-829	10/01/91 - 11/01/91
		D088279	830-862	11/01/91 - 11/30/91
		D088280	863-896	12/01/91 - 12/31/91
		D088281	897-930	01/01/92 - 01/31/92
		D088282	931-962	02/01/92 - 02/29/92
		D088283	963-996	03/01/92 - 03/31/92
		D088284	997-1029	04/01/92 - 04/30/92
		D087229	1030-1063	05/01/92 - 05/30/92
		D087230	1064-1096	06/01/92 - 06/30/92
		D087231	1097-1130	07/01/92 - 07/31/92
DR004571	DS004571	D087232	1-34	08/01/92 - 08/30/92
		D087233	35-67	09/01/92 - 09/30/92
		D089465	68-101	10/01/92 - 10/31/92
		D089466	102-109	11/01/92 - 11/30/92

REQ. AGENT	SAND NO.	ACQ.AGENT
BER	V0048	MVP
BER	V0252	CYN
BAR	V0322	CYN
JEB		CYN

NIMBUS 7

SAM II BANAT

78-098A-06B

THIS DATA SET CATALOG CONSISTS OF 169 SAM II BANAT, (BETA-AEROSAL NUMBER DENSITY TAPE), DATA TAPES. THE TAPES ARE 9-TRACK, 1600 BPI, AND WERE CREATED ON A CDC 6600 COMPUTER. THE TAPES ARE MULTI-FILES BEGINNING WOTH AN EBCDIC HEADER FILE FOLLOWED BY BINARY DATA FILES. ~~DOCUMENTATION FOR THIS DATA SET CAN BE FOUND IN THE FILING CABINET LOCATED IN THE BACK OF THE TAPE LIBRARY~~. THE D AND C NUMBERS, ALONG WITH THE NUMBER OF FILES AND THE TIME SPAN ARE AS FOLLOWS:

D#	C#	FILES	TIME SPAN
D-47134	C-22007	32	11/01/78 - 11/30/78
D-47135	C-22008	33	12/01/78 - 12/31/78
D-47136	C-22009	33	01/01/79 - 01/31/79
D-47137	C-22010	30	02/01/79 - 02/28/79
D-47138	C-22011	33	03/01/79 - 03/31/79
D-47139	C-22012	32	04/01/79 - 04/30/79
D-47140	C-22013	33	05/01/79 - 05/31/79
D-46908	C-21955	32	06/01/79 - 06/30/79
D-46909	C-21956	33	07/01/79 - 07/31/79
D-47141	C-22014	33	08/01/79 - 08/31/79
D-47142	C-22015	32	09/01/79 - 09/30/79
D-47143	C-22016	33	10/01/79 - 10/31/79
D-46766	C-21930	32	11/01/79 - 11/30/79
D-46201	C-21647	33	12/01/79 - 12/31/79
D-46767	C-21931	33	01/01/80 - 01/31/80
D-46768	C-21932	31	02/01/80 - 02/29/80
D-46769	C-21933	33	03/01/80 - 03/31/80
D-46770	C-21934	32	04/01/80 - 04/30/80
D-47233	C-22046	33	05/01/80 - 05/31/80
D-46771	C-21935	32	06/01/80 - 06/30/80
D-46772	C-21936	33	07/01/80 - 07/31/80
D-46773	C-21937	33	08/01/80 - 08/31/80
D-46774	C-21938	32	09/01/80 - 09/30/80
D-46775	C-21939	33	10/01/80 - 10/31/80
D-59740	C-23454	33	11/01/80 - 12/01/80
D-59741	C-23455	34	12/01/80 - 12/31/80
D-59742	C-23456	34	01/01/81 - 02/01/81
D-59743	C-23457	31	02/01/81 - 03/01/81
D-48022	C-22222	34	03/01/81 - 04/01/81

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D#	C#	FILES	TIME SPAN
D-48023	C-22223	33	04/01/81 - 05/01/81
D-48024	C-22224	34	05/01/81 - 06/01/81
D-48025	C-22225	33	06/01/81 - 07/01/81
D-48026	C-22226	34	07/01/81 - 07/31/81
D-48027	C-22227	34	08/01/81 - 09/01/81
D-48028	C-22228	33	09/01/81 - 09/30/81
D-48029	C-22229	34	10/01/81 - 11/01/81
D-59914	C-23528	33	11/01/81 - 11/30/81
D-59915	C-23529	34	12/01/81 - 01/01/82
D-59916	C-23530	34	01/01/82 - 01/31/82
D-59917	C-23531	34	02/01/82 - 02/28/82
D-59918	C-23532	33	03/01/82 - 04/01/82
D-59919	C-23533	33	04/01/82 - 04/30/82
D-59920	C-23534	34	05/01/82 - 06/01/82
D-59921	C-23535	33	06/01/82 - 07/01/82
D-59922	C-23536	34	07/01/82 - 08/01/82
D-59923	C-23537	34	08/01/82 - 09/01/82
D-59924	C-23538	33	09/01/82 - 09/30/82
D-59925	C-23539	34	10/01/82 - 11/01/82
D-64795 *	C-24379	33	11/01/82 - 11/30/82
D-65146 *	C-24566	34	12/01/82 - 12/31/83
D-64796 *	C-24380	34	01/01/83 - 01/31/83
D-64797 *	C-24381	31	02/01/83 - 02/28/83
D-64798 *	C-24382	34	03/01/83 - 03/31/83
D-64799 *	C-24383	33	04/01/83 - 04/30/83
D-64800 *	C-24384	34	05/01/83 - 05/31/83
D-64801 *	C-24385	33	06/01/83 - 06/30/83
D-64802 *	C-24386	34	07/01/83 - 07/31/83
D-64803 *	C-24387	34	08/01/83 - 08/31/83
D-64804 *	C-24388	33	09/01/83 - 09/30/83
D-64805 *	C-24389	34	10/01/83 - 10/31/83
D-73115	C-25703	33	11/01/83 - 12/01/83
D-73116	C-25704	34	12/01/83 - 01/01/84
D-73117	C-25705	34	01/01/84 - 02/01/84
D-73118	C-25706	32	02/01/84 - 03/01/84
D-73119	C-25707	34	03/01/84 - 03/31/84
D-73120	C-25708	33	04/01/84 - 05/01/84
D-73121	C-25709	34	05/01/84 - 06/01/84
D-73122	C-25710	33	06/01/84 - 06/30/84
D-73123	C-25711	34	07/01/84 - 08/01/84
D-73124	C-25712	34	08/01/84 - 08/31/84
D-73125	C-25713	33	09/01/84 - 10/01/84
D-73126	C-25714	34	10/01/84 - 11/01/84
D-73618	C27640	33	11/01/84 - 11/30/84
D-73619	C27641	34	12/01/84 - 01/01/85
D-73620	C27642	34	01/01/85 - 02/01/85
D-73621	C-25928	31	02/01/85 - 03/01/85
D-73622	C-25929	34	03/01/85 - 04/01/85
D-73623	C27643	33	04/01/95 - 05/01/85
D-73624	C27644	34	05/01/85 - 05/31/85

* THESE TAPES WERE REPLACED ON 02/19/88

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D#	C#	FILES	TIME SPAN
D-73625	C27645	33	06/01/85 - 07/01/85
D-73626	C27646	34	07/01/85 - 08/01/85
D-73627	C-25930	34	08/01/85 - 09/01/85
D-73628	C27647	33	09/01/85 - 10/01/85
D-73629	C27648	34	10/01/85 - 10/31/85
D-75299	C-26390	33	11/01/85 - 11/29/85
D-75300	C-26391	34	12/01/85 - 12/30/85
D-75292	C-26383	34	01/01/86 - 01/30/86
D-75293	C-26384	31	02/01/86 - 02/27/86
D-76309	C-26641	34	03/01/86 - 03/30/86
D-75294	C-26385	33	04/01/86 - 04/29/86
D-75295	C-26386	34	05/01/86 - 05/30/86
D-75910	C-26409	33	06/01/86 - 06/30/86
D-75296	C-26387	34	07/01/86 - 07/30/86
D-75297	C-26388	34	08/01/86 - 08/30/86
D-75298	C-26389	33	09/01/86 - 09/29/86
D-75498	C-26401	33	10/01/86 - 10/29/86
D-76310	C-26642	33	11/01/86 - 11/29/86
D-76311	C-26643	34	12/01/86 - 12/30/86
D-76312	C-26644	34	01/01/87 - 01/30/87
D-78708	C-26809	31	02/01/87 - 03/01/87
D-78709	C-26810	34	03/01/87 - 04/01/87
D-78710	C-26811	33	04/01/87 - 04/30/87
D-79582	C27649	34	05/01/87 - 06/01/87
D-79583	C27650	33	06/01/87 - 07/01/87
D-79584	C27651	34	07/01/87 - 08/01/87
D-79585	C27652	34	08/01/87 - 09/01/87
D-79586	C27653	33	09/01/87 - 10/01/87
D-79587	C27654	34	10/01/87 - 11/01/87
D-79805	C-27320	33	11/01/87 - 12/01/87
D-79806	C-27321	34	12/01/87 - 12/31/87
D-79807	C-27322	34	01/01/88 - 02/01/88
D-79808	C-27323	32	02/01/88 - 03/01/88
D-79809	C-27323	34	03/01/88 - 03/31/88
D-79810	C-27325	33	04/01/88 - 05/01/88
D-79811	C-27326	34	05/01/88 - 06/01/88
D-79812	C-27327	33	06/01/88 - 06/30/88
D-79813	C-27328	34	07/01/88 - 08/01/88
D-79814	C-27329	34	08/01/88 - 08/31/88
D-79815	C-27330	33	09/01/88 - 09/30/88
D-79816	C-27331	34	10/10/88 - 11/01/88
D-79817	C-27332	33	11/01/88 - 12/01/88
D-79818	C-27333	34	12/01/88 - 12/31/89
D-79819	C-27334	34	01/01/89 - 02/01/89
D-79867	C-27365	31	02/01/89 - 03/01/89
D-79868	C-27366	34	03/01/89 - 03/31/89
D-79869	C-27367	33	04/01/89 - 05/01/89
D-82220	C-27816	34	05/01/89 - 06/01/89
D-82221	C-27817	33	06/01/89 - 06/30/89
D-82222	C-27818	34	07/01/89 - 08/01/89
D-82223	C-27819	34	08/01/89 - 09/01/89

D#	C#	MILES	TIME SPAN
D-82224	C-27820	33	09/01/89 - 09/30/89
D-82225	C-27821	34	10/01/89 - 11/01/89
D-82228	C-27825	33	11/01/89 - 12/01/89
D-82229	C-27826	34	12/01/89 - 12/31/89
D-82230	C-27827	34	01/01/90 - 02/01/90
D-82231	C-27828	31	02/01/90 - 02/28/90
D-82232	C-27829	34	03/01/90 - 04/01/90
D-82233	C-27830	33	04/01/90 - 04/30/90
D-82877	C-28030	34	05/01/90 - 05/30/90
D-82878	C-28031	33	05/31/90 - 06/30/90
D-82879	C-28032	34	06/30/90 - 07/31/90
D-82880	C-28033	34	07/31/90 - 08/30/90
D-82881	C-28034	33	08/31/90 - 09/29/90
D-82882	C-28035	34	09/30/90 - 10/31/90
D-87151		33	11/01/90 - 12/01/90
D-87152		34	12/01/90 - 12/31/90
D-87153		34	01/01/91 - 02/01/91
D-87154		31	02/01/91 - 03/01/91
D-87155		34	03/01/91 - 04/01/91
D-87156		26	04/01/91 - 05/01/91
D-87157		34	05/01/91 - 05/31/91
D-87158		33	06/01/91 - 07/01/91
D-87159		34	07/01/91 - 08/01/91
D-87160		34	08/01/91 - 08/31/91
D-87161		33	09/01/91 - 09/30/91
D-87162		34	10/01/91 - 11/01/91
D-88279		33	11/01/91 - 11/30/91
D-88280		34	12/01/91 - 12/31/91
D-88281		34	01/01/92 - 01/31/92
D-88282		32	02/01/92 - 02/29/92
D-88283		34	03/01/92 - 03/31/92
D-88284		33	04/01/92 - 04/30/92
D-87229		34	05/01/92 - 05/30/92
D-87230		33	06/01/92 - 06/30/92
D-87231		34	07/01/92 - 07/31/92
D-87232		34	08/01/92 - 08/31/92
D-87233		33	09/01/92 - 09/30/92
D-89465		34	10/01/92 - 10/31/92
D-89466		8	11/01/92 - 11/30/92

B R I E F D E S C R I P T I O N

Beta-Aerosol No Den Arch (BANAT)
78-098A-06B

This data set contains aerosol extinction profiles and is provided by the experimenter in an IBM representation on magnetic tapes. The data set is generated from the RDAT (NSSDC ID 78-098A-06A). For each sunrise and sunset event, 1-km-resolution vertical profiles of aerosol coefficients of extinction are given above an earth tangent point between 64 and 80 deg in both hemispheres. Profiles of molecular extinction coefficients, total extinction ratios, and aerosol number density, along with error bars, are also given. There are 12 BANAT tapes per year.

M A T E R I A L S F O R D I S T R I B U T I O N

78-098A-06B
Beta-Aerosol No Den Arch (BANAT)

SAM II Data User's Guide, NASA RP 1200 (7/88) B38533-000A See -06A

A C K N O W L E D G E M E N T S

When using the data in any reports, publications, or presentations, please acknowledge the National Space Science Data Center and the following individuals or groups:

78-098A-06B
Dr. M. Patrick Mccormick And Mr. George Maddrea, Nasa/Langley Research Center, Members Of The Sam Ii Nimbus Experiment And Information Processing Teams

REQ. AGENT	RAND NO.	ACQ. AGENT
BER	V0048	RWP
BER	V0252	CYN
SAR	V0322	CYN
JFB		CYN

NIMBUS 7

SAM II BANAT

78-098A-06B

THIS DATA SET CATALOG CONSISTS OF 99 169 SAM II BANAT, (BETA-AEROSAL NUMBER DENSITY TAPE), DATA TAPES. THE TAPES ARE 9-TRACK, 1600 BPI, AND WERE CREATED ON A CDC 6600 COMPUTER. THE TAPES ARE MULTI-FILED BEGINNING WITH AN EBCDIC HEADER FILE FOLLOWED BY BINARY DATA FILES. ~~DOCUMENTATION FOR THIS DATA SET CAN BE FOUND IN ROOM 123, IN THE FILING CABINET.~~ THE D AND C NUMBERS, ALONG WITH THE TIME SPANS ARE AS FOLLOWS:

D#	C#	FILES	TIME SPAN
D-47134	C-22007	32	11/01/78 - 11/30/78
D-47135	C-22008	33	12/01/78 - 12/31/78
D-47136	C-22009	33	01/01/79 - 01/31/79
D-37137	C-22010	30	02/01/79 - 02/28/79
D-47138	C-22011	33	03/01/79 - 03/31/79
D-47139	C-22012	32	04/01/79 - 04/30/79
D-47140	C-22013	33	05/01/79 - 05/31/79
D-46908	C-21955	32	06/01/79 - 06/30/79
D-46909	C-21956	33	07/01/79 - 07/31/79
D-47141	C-22014	33	08/01/79 - 08/31/79
D-47142	C-22015	32	09/01/79 - 09/30/79
D-47143	C-22016	33	10/01/79 - 10/31/79
D-46766	C-21930	32	11/01/79 - 11/30/79
D-46201	C-21647	33	12/01/79 - 12/31/79
D-46767	C-21931	33	01/01/80 - 01/31/80
D-46768	C-21932	31	02/01/80 - 02/29/80
D-46769	C-21933	33	03/01/80 - 03/31/80
D-46770	C-21934	32	04/01/80 - 04/30/80
D-47233	C-22046	33	05/01/80 - 05/31/80
D-46771	C-21935	32	06/01/80 - 06/30/80
D-46772	C-21936	33	07/01/80 - 07/31/80
D-46773	C-21937	33	08/01/80 - 08/31/80
D-46774	C-21938	32	09/01/80 - 09/30/80
D-46775	C-21939	33	10/01/80 - 10/31/80
D-59740	C-23454	33	11/01/80 - 12/01/80
D-59741	C-23455	34	12/01/80 - 12/31/80
D-59742	C-23456	34	01/01/81 - 02/01/81
D-59743	C-23457	31	02/01/81 - 03/01/81
D-48022	C-22222	34	03/01/81 - 04/01/81
D-48023	C-22223	33	04/01/81 - 05/01/81

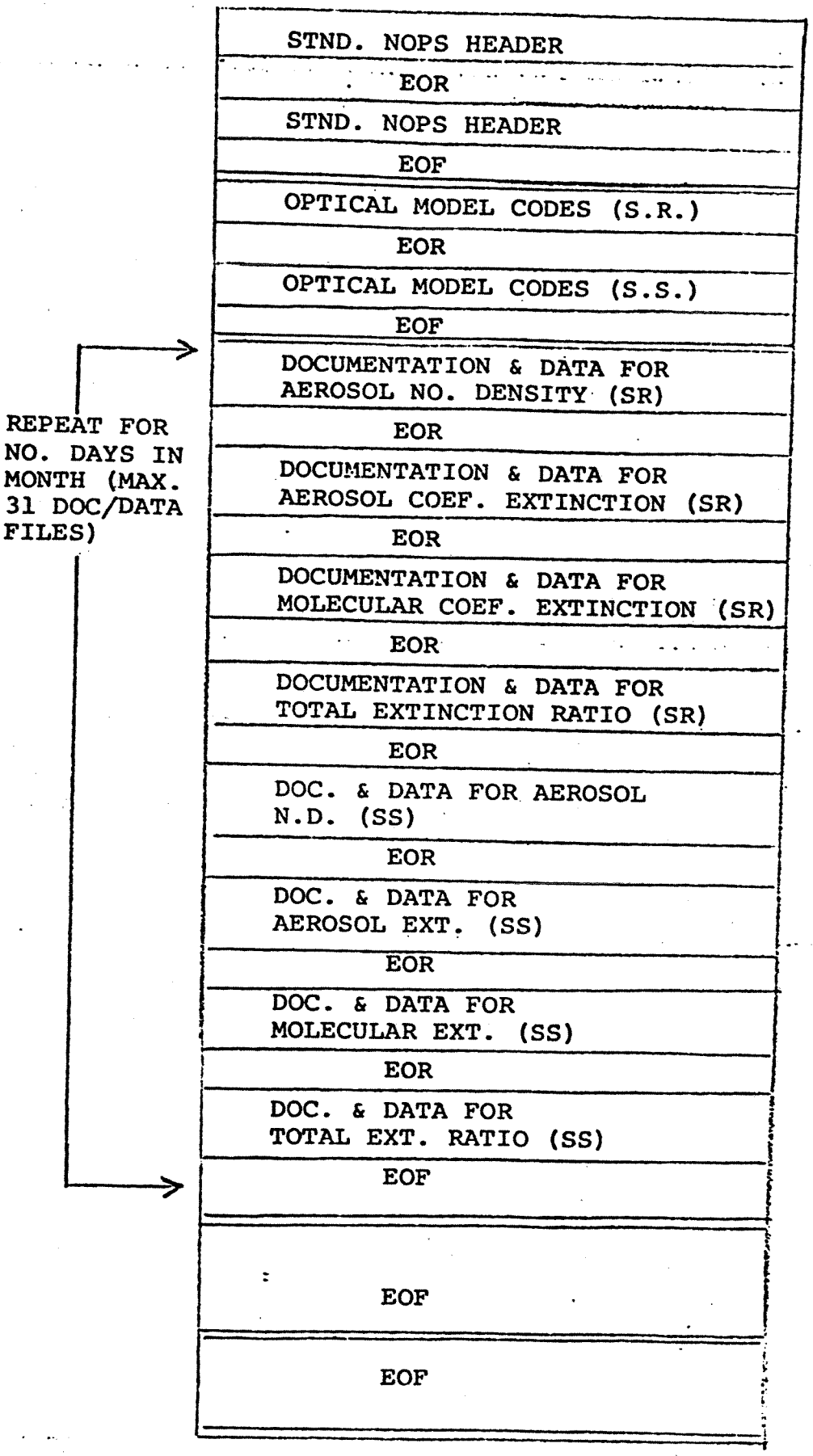
78-098A-06B

D#	C#	FILES	TIME SPAN
D-48024	C-22224	34	05/01/81 - 06/01/81
D-48025	C-22225	33	06/01/81 - 07/01/81
D-48026	C-22226	34	07/01/81 - 07/31/81
D-48027	C-22227	34	08/01/81 - 09/01/81
D-48028	C-22228	33	09/01/81 - 09/30/81
D-48029	C-22229	34	10/01/81 - 11/01/81
D-59914	C-23528	33	11/01/81 - 11/30/81
D-59915	C-23529	34	12/01/81 - 01/01/82
D-59916	C-23530	34	01/01/82 - 01/31/82
D-59917	C-23531	34	02/01/82 - 02/28/82
D-59918	C-23532	33	03/01/82 - 04/01/82
D-59919	C-23533	33	04/01/82 - 04/30/82
D-59920	C-23534	34	05/01/82 - 06/01/82
D-59921	C-23535	33	06/01/82 - 07/01/82
D-59922	C-23536	34	07/01/82 - 08/01/82
D-59923	C-23537	34	08/01/82 - 09/01/82
D-59924	C-23538	33	09/01/82 - 09/30/82
D-59925	C-23539	34	10/01/82 - 11/01/82
D-64795	C-24379	33	11/01/82 - 12/01/82
D-65146	C-24566	34	12/01/82 - 01/01/83
D-64796	C-24380	34	01/01/83 - 02/01/83
D-64797	C-24381	31	02/01/83 - 03/01/83
D-64798	C-24382	34	03/01/83 - 04/01/83
D-64799	C-24383	33	04/01/83 - 05/01/83
D-64800	C-24384	34	05/01/83 - 06/01/83
D-64801	C-24385	33	06/01/83 - 07/01/83
D-64802	C-24386	34	07/01/83 - 07/31/83
D-64803	C-24387	34	08/01/83 - 09/01/83
D-64804	C-24388	33	09/01/83 - 10/01/83
D-64805	C-24389	34	10/01/83 - 10/31/83
D-73115	C-25703	33	11/01/83 - 12/01/83
D-73116	C-25704	34	12/01/83 - 01/01/84
D-73117	C-25705	34	01/01/84 - 02/01/84
D-73118	C-25706	32	02/01/84 - 03/01/84
D-73119	C-25707	34	03/01/84 - 03/31/84
D-73120	C-25708	33	04/01/84 - 05/01/84
D-73121	C-25709	34	05/01/84 - 06/01/84
D-73122	C-25710	33	06/01/84 - 06/30/84
D-73123	C-25711	34	07/01/84 - 08/01/84
D-73124	C-25712	34	08/01/84 - 08/31/84
D-73125	C-25713	33	09/01/84 - 10/01/84
D-73126	C-25714	34	10/01/84 - 11/01/84
D-73618		33	11/01/84 - 11/30/84
D-73619		34	12/01/84 - 01/01/85
D-73620		34	01/01/85 - 02/01/85
D-73621	C-25928	31	02/01/85 - 03/01/85
D-73622	C-25929	34	03/01/85 - 04/01/85
D-73623		33	04/01/95 - 05/01/85
D-73624		34	05/01/85 - 05/31/85
D-73625		33	06/01/85 - 07/01/85

78-098A-06B

D#	C#	FILES	TIME SPAN
D-73626		34	07/01/85 - 08/01/85
D-73627	C-25930	34	08/01/85 - 09/01/85
D-73628		33	09/01/85 - 10/01/85
D-73629		34	10/01/85 - 10/31/85
D-75299	C-26390	33	11/01/85 - 11/29/85
D-75300	C-26391	34	12/01/85 - 12/30/85
D-75292	C-26383	34	01/01/86 - 01/30/86
D-75293	C-26384	31	02/01/86 - 02/27/86
D-76309	C-26641	34	03/01/86 - 03/30/86
D-75294	C-26385	33	04/01/86 - 04/29/86
D-75295	C-26386	34	05/01/86 - 05/30/86
D-75910	C-26409	33	06/01/86 - 06/30/86
D-75296	C-26387	34	07/01/86 - 07/30/86
D-75297	C-26388	34	08/01/86 - 08/30/86
D-75298	C-26389	33	09/01/86 - 09/29/86
D-75498	C-26401	33	10/01/86 - 10/29/86
D-76310	C-26642	33	11/01/86 - 11/29/86
D-76311	C-26643	34	12/01/86 - 12/30/86
D-76312	C-26644	34	01/01/87 - 01/30/87

IV. BANAT GROSS FORMAT



V. STANDARD HEADER

All magnetic tapes used as interfaces within NOPS will require some form of identification. A standardized series of records in the initial file on each tape will be used and will be called a NOPS "Standard Header File." Some tapes used within a NOPS facility which do not pass an interface will be exempt from this requirement - although it is a recommended procedure.

The STD HRD will contain the spec number of the tape generated. The interface spec numbering system is shown in Table V-1.

Each STD HDR will be written in EBCDIC so that it can be easily printed for quick identification of the tape. Figure V-1 shows the standard header format using 24 bit words.

Because of the real possibility of an original tape being damaged in handling (resulting in the loss of many computations), each processing facility within NOPS will generate duplicate copies of master tapes. These duplicates will be delivered to IPD for data product generation or user copy generation and will be indicated by the characters "-2" added to the sequence number in the STD HDR. The original will be indicated by the characters "-1" and will be retained in a secure environment at the originating facility. When IPD returns copy no. 2 due to tape errors, a new copy will be sent to IPD with the same copy number, but identified on the tape cannister as "-2A", then "-2B" for a subsequent redo, etc.

IPD will include a shipping letter with every tape distributed. The shipping letter will be printed directly from the STD HDR on the tape. In the case of copies made from tapes not generated in IPD, a new set of 126 characters reflecting IPD as the source, and the Nimbus experimenter to whom the tape is being sent, as the destination, is produced. This new 126 character set is put at the start of the header and the second through fifth blocks of 126 characters are the first through fourth blocks from the original copy 2 tape (the fifth block of the copy 2 will be lost).

STANDARD HEADER (PHYSICAL RECORD FORMAT)

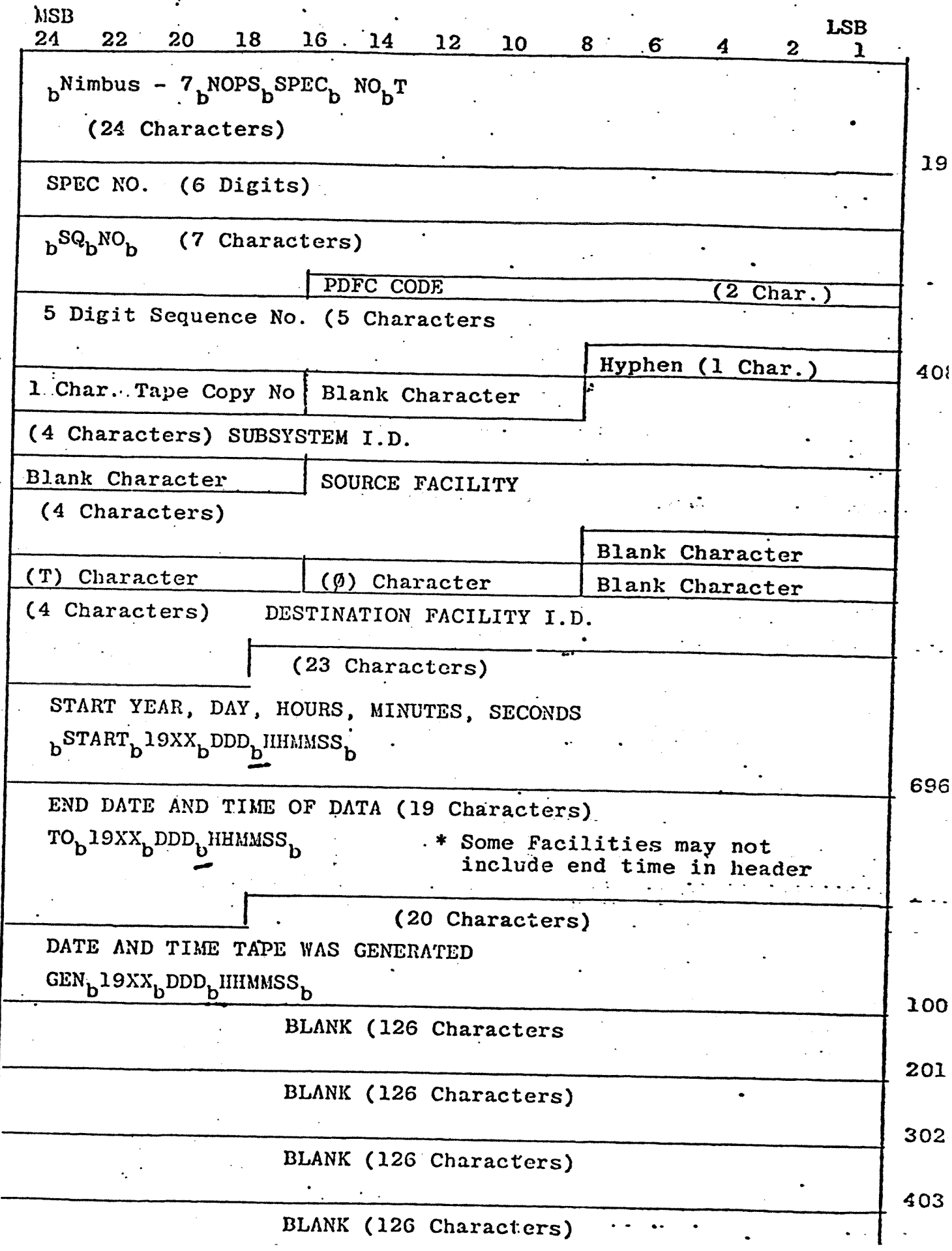
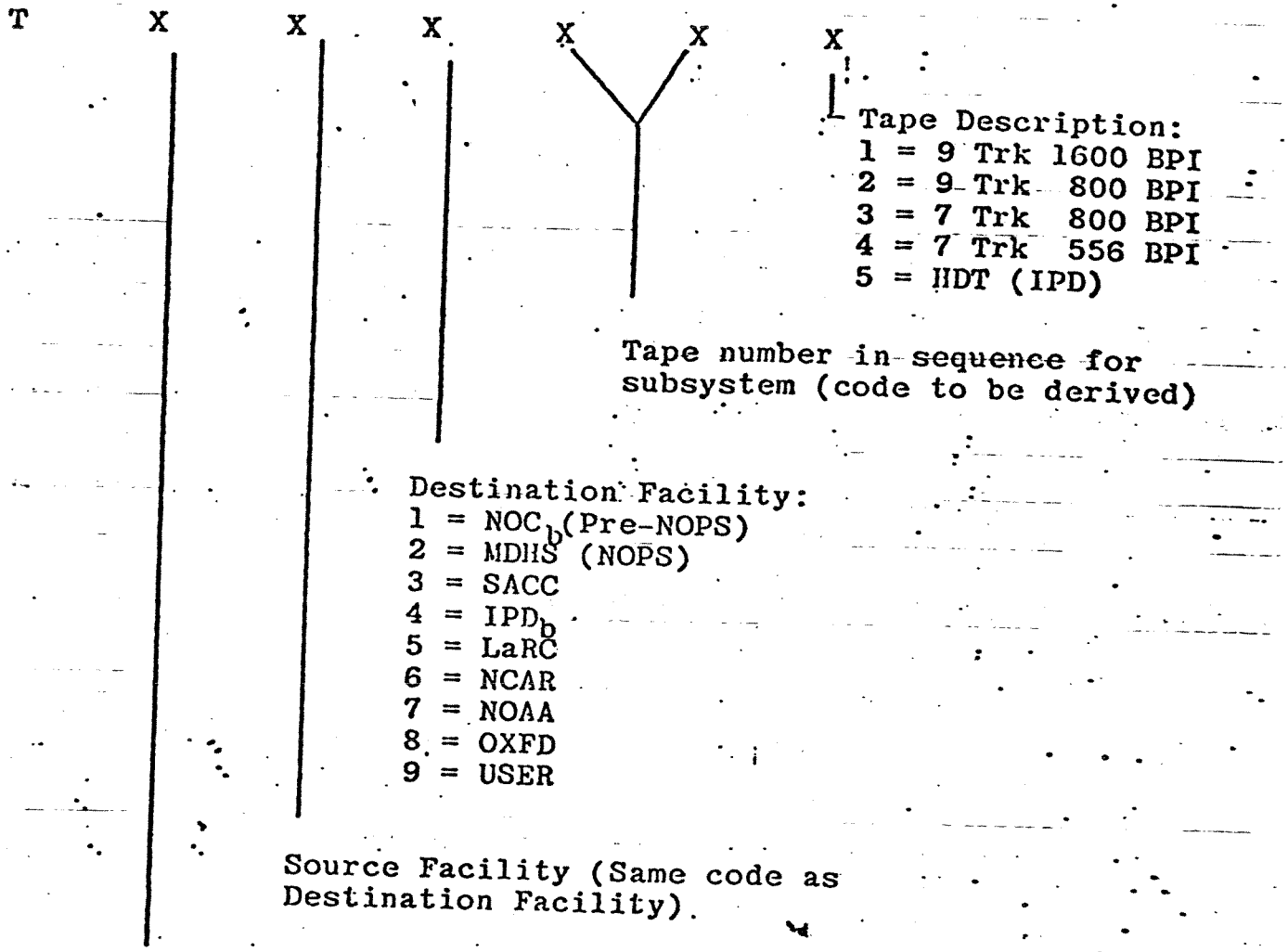


TABLE VI-1

NOPS SPECIFICATION NUMBERING CODE

TAPES: A six digit number prefixed with a T to denote TAPE will be used.



The STD HDR will contain the following:

Two identical records (physical) of 630 characters (eight bits) each followed by an end-of-file.

The first 126 characters of the first record will consist of:

bNIMBUS-7bNOPSbSPECbNObT	(24 char.)	
XXXXXX (6 digit spec number)	(6 char.)	
bSQbNOb	(7 char.)	PDFC Designa
AAXXXXX (5 digit sequence No.)	(7 char.)	and 5 digit quence No.

NOTE: If sequence number is zero, tape is not a finished product (i.e. definitive ephemeris not used, artificial VIP data, etc.)

-X (copy number 1 or 2)	(2 char.)
bYYYYb (4 char. subsystem ID)	(6 char.)
YYYY (Generation Facility ID)	(4 char.)
bTObYYYY (4 char. Des. Fac. ID)	(8 char.)
bSTARTb19XXbDDDbHHMMSSb (Start year, day of year, hours, minutes, seconds)	(23 char.)
TOb19XXbDDDbHHMMSSb (end data and time of data)	(19 char.)
GENb19XXbDDDbHHMMSSb (date and time tape was generated)	(20 char.)
	(126 char.)

The second group of 126 characters will contain blanks (to allow for the original 126 characters when IPD duplicates tape for distribution).

The third, fourth, and fifth groups of 126 characters each are intended for the use of the Subsystem Analysts for further identification of their data. They may contain blanks, EBCDIC, BDC, or binary characters or zeros.

The second record in the file is a duplicate of the first record for redundancy.

The PDFC codes are as defined in Table V-2.

EXAMPLE: An ERB matrix tape covering the month of February 1979 is generated by SACC and sent to IPD for production of contour maps on 16 mm microfilm. The NOPS STD HDR File on the tape which IPD receives would contain two of the following records.

$_{b}$NIMBUS-7$_{b}$NOPS$_{b}$SPEC$_{b}$NO$_{b}$T134031$_{b}$SQ$_{b}$NO$_{b}$

AA00027-2$_{b}$ERB$_{bb}$SACC$_{b}$TO$_{b}$IPD$_{bb}$START$_{b}$1979$_{b}$

032$_{b}$000432$_{b}$TO$_{b}$1979$_{b}$059$_{b}$235742$_{b}$GEN$_{b}$

1979$_{b}$104$_{b}$094500$_{b}$followed by 504 blanks

The following new standard header specification was added to this document on July 15, 1981.

All of these tape types with a generation date after _____ will conform to this standard header.

Tapes processed before this date will conform to the preceeding standard header documentation.

STANDARD HEADER SPECIFICATION AND TAPE DOCUMENTATION

V.1 GENERAL

All computer compatible tapes (CCT's) that are used as interfaces within NOPS require some form of identification. This applies to all CCT's that are currently defined by a NOPS tape specification, and that are also used for distribution or archiving purposes.

In addition to defining a "latest" product, data relating to previous products that went into the making of the "latest" product provides useful information when system problems occur.

The purpose of this revision to existing NOPS tape specifications is to define a scheme that allows the recording of the genealogy of a "latest" product, and in general adheres to existing tape documentation standards.

In brief the system is as follows:

1. A documentation file that consists of a string of physical records follows the data on any tape defined by a current NOPS tape specification. This will be referred to as a Trailing Documentation File (TDF), and be the last file on a tape when it exists.

2. The standard NOPS header file remains as defined, with minor modifications to the standard header record that reflect both the existence of a TDF and adherence to the IPD standard for sequence numbers.

The following sections define the NOPS standard header records and file, and the TDF. Data files as currently defined in NOPS tape specification remain unchanged.

V.2 STANDARD HEADER RECORD (SHR)

The SHR will consist of one physical record that consists of 5 logical records of 126 EBCIDIC characters. The first 126 characters will remain as previously defined with the exception of CHARACTER 1, and those characters that define the sequence number (40-45). CHARACTER 1 will contain an asterisk (*) and serve to notify all systems that a TDF is likely to follow the main data files and that the next logical record contains information relevant to complete identification. As of the implementation date of this specification, all sequence numbers will have the following form that is an IPD standard:[1]

[1]This does not apply to CZCS Data. For CZCS data, CHARACTERS 40 to 45 represent a 6-digit sequence number.

CHARACTER 40 = The last digit of the year in which the data were acquired.

CHARACTER 41-43 = Julian day of the year in which the data were acquired.

CHARACTER 44 = Sequence number for this particular product (usually a 1) (e.g., CLDT's will have a 1 and 2, as there are 2 products per day).

CHARACTER 45 = The existing hyphen remains unless there is a remake of the tape for any reason. In this case, an ascending alpha character will replace the hyphen, and the most recent reasons for remake will be recorded in logical record 4 of the header.

CHARACTER 47 = This will remain as a blank unless it is needed to remove ambiguities in CHARACTER 40. This may occur if data are being acquired on October 24, 1988.

This scheme will uniquely identify any tape when used in conjunction with the tape specification number, the PDFC code, and the subsystem identification.

The second logical record consisting of 126 characters will contain information that is required to complete the history of the product.

CHARACTER 1-12 = Software program name and version number.

CHARACTER 13-18 = Program documentation reference number, if it exists.

CHARACTER 20-126 = User defined comments that may be more relevant to the user than the preceding ones.

The NOPS standard header file will continue to consist of 2 records, the second being a duplicate of the first. Logical records 3 and 4 may be used for anything desired if no remake information is required.[2]

V.3 TRAILING DOCUMENTATION FILE (TDF)

The TDF will consist of all NOPS standard header records (non-duplicated) that relate to products that have gone into the making of the current product. Documentation records will be

---

[2]In the case of CZCS these logical records are used to define the genealogy of the image rather than the method of V.3.

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17 November 1987

NASA Goddard Space Flight Center
Attn: 602.9 / Mike Doline
Bldg 3, Room S58
Greenbelt, MD 20771

Dear Mike:

Enclosed is the latest version of the SAM II Quality Control list of questionable or bad profiles identified from the start of the SAM II experiment through November 1, 1986. Included in this version is an updated list of anomolous extinction profiles from the fifth year SAM II data that has been reprocessed due to heavy aerosol loading after the eruption of El Chichon. This list replaces all previously prepared versions.

Sincerely,

Kathleen A. Powell

Kathleen A. Powell

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SAMII QUALITY CONTROL

Anomolous extinction profiles have recently been found in the SAMII data set covering the period from the middle of 1982 through 1983. While some of these profiles exhibit the high extinctions characteristic of ERB calibrations, the remainder of the questionable profiles appear to be related to problems with determining the correct scan altitude during periods of heavy stratospheric aerosol loading. To determine the extent of the problem the entire SAMII data base has been screened for bad profiles by plotting extinction isopleths on a daily basis as a function of altitude and longitude. Individual profiles which are not consistent with adjacent profiles(either in time or longitude) can be easily identified when plotted in this form. Suspicious profiles are then checked against the microfiche plots of extinction and transmission. Although this visual screening process is somewhat subjective we are primarily concerned with those profiles which are obviously incorrect. Instances where the profiles are questionable but it was not possible to reach a definite conclusion are also listed in the following tables. The user should inspect these profiles and decide whether or not they are suitable to be included in the particular study being undertaken. The anomolous profiles have been categorized in the tables as follows:

CAUSE

E ERB calibration. Delete all of these profiles.

E+ Extinction profile is similar to that for an ERB calibration but the profile shape suggests there are additional problems. Delete all of these profiles.

SP Sun spots. These appear to be a problem only from 20 to 30km and above. Whether or not these profiles should be deleted depends on how the SAMII data is being used. Only the worst cases have been listed in the tables. There are many more profiles remaining in the data base which are slightly perturbed by sun spots.

ADB Altitude determination is bad. The qualifier (described below) determines whether the profile should be deleted.

? Cause unknown. Qualifier determines whether the profile should be deleted.

QUALIFIER

D Delete profile from consideration.

? End user must decide whether or not to delete profile.

Astericks following the orbit numbers in the following tables indicate those profiles which have been identified previously as perturbed by an ERB calibration. Days for which no profiles are available are listed at the end of each yearly table. These tables will be updated as new data

is processed or old data reprocessed.

Jack Larsen

Last revision 9/15/85

Data screened through 5/5/84

Last revision 3/06/86

Data screened through 5/4/85

Last revision 5/23/86

Data screened through 10/26/85

Last revision 8/11/87

Data screened through 11/01/86

1979

ORBIT NUMBER	MONTH/DAY	0-SR(S) 1-SS(N)	CAUSE
1073	JAN/09	0	SP
1552*	FEB/13	0	E
1766	MAR/01	1	ADB(D)
1773*	MAR/01	0	E
1987	MAR/17	1	ADB(D)
2105*	MAR/25	0	E
2105*	MAR/25	1	E
2568*	APR/28	0	E
2568*	APR/28	1	E
2836	MAY/17	0	ADB(D)
2928*	MAY/24	0	E
3259*	JUN/17	0	E
3259*	JUN/17	1	E
3591*	JUL/11	0	E
3591*	JUL/11	1	E
3923*	AUG/04	0	E
4254*	AUG/28	0	E
4586*	SEP/21	0	E
4586*	SEP/21	1	E
4691	SEP/28	0	SP
5097*	OCT/28	1	E
5130	OCT/30	1	?(?) NO FICHE
5249*	NOV/08	1	E
5560*	NOV/30	1	E
5581*	DEC/02	0	E
5915*	DEC/26	0	E

1980

ORBIT NUMBER	MONTH/DAY	0-SR(S) 1-SS(N)	CAUSE
6224	JAN/17	0	ADB(D)
6244*	JAN/19	0	E
6264	JAN/20	1	ADB(D)
6576*	FEB/12	0	E
6696	FEB/20	1	E
7085	MAR/19	0	ADB(D)
7239*	MAR/31	0	E
7571*	APR/24	0	E
7866	MAY/15	0	ADB(D)
7903*	MAY/18	0	E
8278	JUN/14	1	SP
8340	JUN/18	1	SP
8567*	JUL/05	1	E
8567*	JUL/05	0	E
8897*	JUL/29	1	E
9280	AUG/25	1	SP
9295	AUG/26	0	SP
9561*	SEP/15	0	E
9892*	OCT/09	0	E
9954	OCT/13	0	SP
10225*	NOV/02	1	E
10887*	DEC/20	1	E

NO MET DATA FOR THE FOLLOWING DAYS
MARCH 5,6,7,8,9
AUGUST 10,11
DECEMBER 15,16

NUMBER	MONTH/DAY	1-SS(N)	CAUSE
253	NOV/11	1	ADB(D)
490*	NOV/28	0	E
797*	DEC/20	1	E

1981

ORBIT NUMBER	MONTH/DAY	0-SR(S) 1-SS(N)	CAUSE
11219*	JAN/13	0	E
11549*	FEB/05	0	E
11549*	FEB/05	1	E
11882*	MAR/01	0	E
11882*	MAR/02	1	E
12214*	MAR/26	0	E
12878*	MAY/13	0	E
13210*	JUN/06	1	E
13873*	JUL/24	1	E
14205*	AUG/17	0	E
14264	AUG/21	1	SP
14291	AUG/23	1	SP
14536*	SEP/10	0	E
14868*	OCT/04	0	E
15021	OCT/15	1	SP
15200	OCT/28	0	E NO FICHE
15533*	NOV/21	0	E
15658	NOV/30	0	ADB(D)
15788	DEC/09	0	SP+ADB(D)
15863*	DEC/15	0	E
14291	AUG/23	0	SP

1982

ORBIT NUMBER	MONTH/DAY	0-SR(S) 1-SS(N)	CAUSE
16195*	JAN/08	0	E
16195*	JAN/08	1	E
16306	JAN/16	0	SP+ADB(D)
16858*	FEB/25	0	E
16858*	FEB/25	1	E
17156	MAR/18	0	E+ADB(D)
17190*	MAR/21	0	E
17190*	MAR/21	1	E
17521*	APR/14	1	E
17853*	MAY/08	1	E
18185*	JUN/01	0	E
18185*	JUN/01	1	E
18517*	JUN/25	0	E
18517*	JUN/25	1	E
18595	JUN/30	0	ADB(D)
18678	JUL/06	0	ADB(D)
18848*	JUL/19	0	E
18848*	JUL/19	1	E
19110	AUG/07	1	?(D)
19118	AUG/07	0	SP+ADB(?)
19512*	SEP/05	0	E
19512*	SEP/05	1	E
19649	SEP/15	1	ADB(D)
19844*	SEP/29	0	E
19844*	SEP/29	1	E
19852	SEP/29	1	ADB(D)
20495	NOV/15	1	ADB(D)
20564	NOV/20	1	ADB(D)
20677	NOV/28	1	ADB(D)
20684	NOV/28	1	ADB(D)
20796	DEC/06	1	SP
20799	DEC/07	1	ADB(D)
20820	DEC/08	1	ADB(D)
20851	DEC/10	1	ADB(D)
20902	DEC/14	1	ADB(D)
21014	DEC/22	1	ADB(D)
21065	DEC/26	1	ADB(D)
21078	DEC/27	1	ADB(D)

NO MET DATA FOR THE FOLLOWING DAYS
JANUARY 17,18
JULY 13,14,27,28,29,30
AUGUST 12,13

1983

ORBIT NUMBER	MONTH/DAY	0-SR(S) 1-SS(N)	CAUSE
21144	JAN/01	0	ADB(D)
21148	JAN/01	1	ADB(D)
21438	JAN/22	1	ADB(D)
21451	JAN/23	1	ADB(D)
21495	JAN/26	1	ADB(D)
21676	FEB/08	1	ADB(D)
21678	FEB/08	1	ADB(D)
22116	MAR/12	1	ADB(D)
22252	MAR/22	1	ADB(D)
22304	MAR/26	1	ADB(D)
22442	APR/05	1	ADB(D)
22597	APR/16	1	ADB(D)
22851	MAY/04	1	ADB(D)
22988	MAY/14	1	ADB(D)
23052	MAY/19	1	ADB(D)
23197	MAY/29	1	ADB(D)
23245	JUN/02	1	ADB(D)
23268	JUN/03	1	ADB(D)
23298	JUN/05	0	SP
23369	JUN/11	0	SP
23377	JUN/11	0	ADB(D)
23378	JUN/11	0	ADB(D)
23379	JUN/11	0	ADB(D)
23380	JUN/11	0	ADB(D)
23392	JUN/12	0	ADB(D)
23396	JUN/13	1	ADB(D)
23413	JUN/14	1	ADB(D)
23460	JUN/17	1	ADB(D)
23462	JUN/17	1	ADB(D)
23516	JUN/21	1	E+?(D)
23550	JUN/24	1	ADB(D)
23639	JUN/30	1	ADB(D)
23718	JUL/06	0	ADB(D)
23753	JUL/08	1	ADB(D)
23831	JUL/14	1	ADB(D)
23876	JUL/17	0	ADB(D)
23937	JUL/22	1	ADB(D)
23958	JUL/23	1	ADB(D)
23984	JUL/25	1	ADB(D)
23994	JUL/26	1	ADB(D)
24020	JUL/28	1	ADB(D)
24292	AUG/16	0	ADB(D)+SP
24311	AUG/18	1	ADB(D)
24333	AUG/19	1	ADB(D)
24375	AUG/22	0	ADB(D)
24388	AUG/23	0	ADB(D)

24389	AUG/23	0	ADB(D)
24471	AUG/29	1	ADB(D)
24682	SEP/14	1	ADB(D)
24924	OCT/01	1	ADB(D)
25712	NOV/27	0	ADB(D)
25834	DEC/06	0	ADB(D)
26176	DEC/31	0	ADB(D)

1984

ORBIT NUMBER	MONTH/DAY	0-SR(S) 1-SS(N)	CAUSE
26821	FEB/15	1	E
27152	MAR/10	1	E
27474	APR/03	1	E
27811	APR/27	1	SP
28894	JUL/14	0	ADB(D)
30064	OCT/07	1	ADB(D)
30093	OCT/09	0	ADB(D)
30257	OCT/21	0	ADB(D)
30420	NOV/02	0	E
30792	NOV/29	1	E

1985

ORBIT NUMBER	MONTH/DAY	0-SR(S) 1-SS(N)	CAUSE
31684	FEB/01	0	E
32021	FEB/25	0	E
33210	MAY/23	1	ADB(D)
33491	JUN/12	1	SP
33760	JUL/01	0	?(D)
33925	JUL/13	0	ADB(D)
33981	JUL/17	0	ADB(D)
33995	JUL/18	0	ADB(D)
34051	JUL/22	0	ADB(D)
34078	JUL/24	0	ADB(D)
34578	AUG/29	1	ADB(D)

FOLLOWING DAYS HAVE NO EVENTS
JULY 2
MAY 27,28,29,30,31

1986

ORBIT NUMBER	MONTH/DAY	0-SR(S) 1-SS(N)	CAUSE
36512	JAN/16	0	ADB(?)
36713	JAN/31	1	E
36817	FEB/07	0	E
37032	FEB/23	0	E
37571	APR/03	0	E
37979	MAY/02	0	E
38390	JUN/01	0	ADB(?)
38525	JUN/11	0	ADB(?)

FOLLOWING DAYS HAVE MISSING EVENTS
MARCH 21,22,23,24,25,26,27,28
MAY 22
JUNE 8
JULY 1 THROUGH AUG 4 (MANY SUNSET EVENTS MISSING)

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SAM II Measurements of the Polar Stratospheric Aerosol

Volume III - October 1979 to April 1980

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**Scientific and Technical
Information Branch**

PREFACE

This is the third in a series of reports presenting results obtained from the Stratospheric Aerosol Measurement (SAM) II sensor aboard the Nimbus 7 spacecraft. The first 6 months of data were previously reported by McCormick in NASA Reference Publication 1081 entitled "SAM II Measurements of the Polar Stratospheric Aerosol. Volume I - October 1978 to April 1979." Similarly, the second 6 months of data, covering April 1979 to October 1979, were published in NASA Reference Publication 1088. Each report contains selected data products such as aerosol extinction profiles, aerosol extinction isopleths, temperature contours, and optical depths associated with 6 months of observations. The satellite was launched in late October 1978 and is still providing high-quality data. This report includes data from October 1979 through April 1980. It is intended for future reports to cover subsequent consecutive 6-month time periods.

All the SAM II data and data products are being archived on magnetic tape at the National Space Sciences Data Center, NASA Goddard Space Flight Center, Greenbelt, Maryland 20771, and are available to interested researchers. Because of the large volume of data retrieved by the SAM II system, it is impossible to present all the results in hard-copy form. Consequently, this series of reports is intended to give, in a ready-to-use visual format, an overview of the data products being archived. It contains a large enough sampling of the results to allow for any analysis not requiring the entire data base. No attempt has been made in this report, however, to provide any scientific analysis with the data set. Some investigations have been already initiated by the SAM II Science Team, which is made up of the following people: G. W. Grams, Georgia Institute of Technology; B. M. Herman, University of Arizona; T. J. Pepin, University of Wyoming; P. B. Russell, SRI International; and M. P. McCormick, NASA Langley Research Center.

CONTENTS

SUMMARY

The Stratospheric Aerosol Measurement (SAM) II sensor is flying aboard the Earth-orbiting Nimbus 7 spacecraft providing extinction measurements of the Antarctic and Arctic stratospheric aerosol with a vertical resolution of 1 km. This report presents representative examples and weekly averages of these aerosol data as well as corresponding temperature profiles provided by the National Meteorological Center of the National Oceanic and Atmospheric Administration (NOAA) for the time and place of each SAM II measurement during the third 6 months of satellite flight, October 1979 through April 1980. From the aerosol extinction-profile data, contours of aerosol extinction as a function of altitude and longitude or time are plotted. Also, aerosol optical depths are calculated for each week. Seasonal variations and variations in space (altitude and longitude) for both polar regions are easily seen. Typical values of aerosol extinction at the SAM II wavelength of 1.0 μm for this time period are 2 to 4 times 10^{-4} km^{-1} in the main stratospheric aerosol layer. Optical depths for the stratosphere are about 0.002 to 0.003. These values are up slightly over normal background levels due to the eruption of Sierra Negra (Nov. 1979). Polar stratospheric clouds (PSC's) at altitudes of about 22 km were observed during the Arctic winter at various times and locations. No attempt has been made in this report to give any detailed explanations or interpretations of these data. The intent of this report is to provide, in a ready-to-use format, a representative sample of the third 6 months of data to be used in atmospheric and climatic studies.

INTRODUCTION

The SAM II sensor is aboard the Earth-orbiting Nimbus 7 spacecraft and is designed to measure solar irradiances that have been attenuated by aerosol particles in the Arctic and Antarctic stratosphere. A principal goal of this mission is to map these polar aerosol layers and to generate a long-term data base or aerosol climatology. This data base will allow for studies of aerosol changes due to seasonal and short-term meteorological variations, atmospheric chemistry and microphysics, and volcanic activity and other perturbations. The results obtained will be useful in a number of applications, particularly the evaluation of any potential climate effect caused by stratospheric aerosols.

SAM II INSTRUMENT

The SAM II instrument consists of a single-channel Sun photometer with a 0.04-μm passband centered at a wavelength of 1.0 μm. This is a region of the spectrum where absorption by atmospheric gases is negligible; consequently, any extinction is due to scattering by aerosol particles and air molecules.

In operation, the instrument is activated shortly before each sunrise or sunset encountered by the satellite. A sensor with a wide field of view is used to indicate the Sun's presence. Two similar sensors then point the SAM II to within ±0.03° in azimuth (left and right). A mirror begins a rapid vertical scan until the Sun image is acquired by the SAM II telescope. The mirror then slowly scans vertically across the Sun at a rate of 0.25 degree per second reversing itself each time a Sun-limb crossing occurs. The entrance window to the SAM II telescope only passes sunlight of

wavelength greater than 0.9 μm. A circular aperture placed at the image plane serves to define the instrument's instantaneous field of view to be 0.5 minute of arc. This corresponds to a vertical resolution in the atmosphere of approximately 0.5 km altitude. From the telescope the light is directed through an interference filter, which rejects all but the 1.0-μm-wavelength (±0.02 μm) passband, to a photodiode detector. Light intensity as a function of time is digitized, recorded, and telemetered back to Earth. These data are reduced to yield the transmissivity of the atmosphere as a function of altitude and then inverted to give the extinction coefficient as a function of altitude (extinction profile). The inversion procedures used are described in Chu and McCormick (ref. 1).

A description of the SAM II instrument, and of the experiment in general, is given by McCormick et al. (ref. 2). Further descriptive and technical details are found in Russell et al. (ref. 3) and The Nimbus 7 User's Guide (ref. 4).

THE NIMBUS 7 SATELLITE ORBIT AND SAM II MEASUREMENTS

The SAM II instrument, along with a number of other sensors, is mounted on the Nimbus 7 Earth-orbiting satellite. The orbital characteristics of this satellite determine the measurement opportunities and geographic locations of the SAM II measurements. Recall that the mode of operation of the instrument is such that it takes data during each sunrise and sunset encountered. The Nimbus 7 satellite has an orbital period of 104 minutes, which means that it circles the Earth nearly 14 times per day. Each time the satellite enters into or emerges from the Earth's shadow, there is a measurement opportunity for the SAM II. Consequently, the instrument takes data during approximately 14 sunrises and 14 sunsets each Earth day. The orbit of the satellite is a high-noon, Sun-sychronous one, that is, each time the satellite crosses the Equator, the center of the Earth, the satellite, and the center of the Sun all fall along a straight line. In general terms, this means that the orbital plane of the satellite is fixed with respect to the Sun and that all sunsets occur in the Arctic region whereas all sunrises occur in the Antarctic region. In the course of a single day, measurements of the stratospheric aerosol will be obtained at 14 points spaced 26° apart in longitude in the Northern Hemisphere, and similarly for the Southern Hemisphere. All the points obtained during 1 day in a given hemisphere will be at very nearly the same latitude, but as time progresses, the latitude of the measurements will slowly change with the season by 1° to 2° each week, gradually sweeping out the area from 64° to 80°. Figure 1 shows this latitudinal coverage for the period covered by this report. Lowest latitude coverage occurs at the solstices whereas the highest latitudes are measured at the equinoxes.

In the course of 1 week, therefore, the instrument makes about 98 measurements in each region, all in a band of latitude of approximately 1°. These measurements give a fairly dense set of data points. When the locations of all the measurements obtained in 1 week are plotted on a geographic set of axes, one finds that the separation between the points is only about 4° in longitude. In a 6-month period of time, the total number of observations is of the order of 5000.

DATA PRODUCTS

The basic data product is the extinction profile obtained during each measurement opportunity, which can be analyzed to determine the latitudinal, longitudinal, and temporal variations in the stratospheric aerosol. A detailed description of all the data products that are scheduled for routine archiving is given in section 5 of

The Nimbus 7 User's Guide (ref. 4). These include tapes of the following: raw radiance as a function of time for each sunrise and sunset; aerosol extinction coefficient, molecular extinction coefficient, and modeled aerosol number density as a function of altitude; and stereographic polar maps and cross sections of latitude (or longitude) as a function of altitude. The archived products also include 18 different types of output products produced on 16-mm film and consisting of profiles, cross sections, maps, and histories.

This report presents a portion of these data. Specifically, it contains the third 6-month's data of the following: weekly averages of SAM II extinction profiles; a 1-day sample for each week of aerosol extinction as a function of altitude and longitude; isopleths of weekly averaged extinction profiles plotted against time; and tables of weekly averaged stratospheric optical depth. These and the many data products generated represent far too much material to present in a reasonably sized report. It was decided, therefore, to present instead averages and representative samples of the data products. Where appropriate, the temperature profile or average temperature profile for the location at which the SAM II measurements were made is given with the aerosol data. The temperature data were supplied by the National Meteorological Center of the National Weather Service of NOAA, and are interpolated from their gridded global data sets (ref. 5). The optical-depth data are calculated directly from the aerosol extinction profile, which gives aerosol extinction coefficient as a function of altitude, by integrating between the altitude levels of interest. These data are presented in the form of tables.

EXTINCTION PROFILES

The average of all extinction profiles measured by SAM II for a given week and the corresponding average temperature profiles are presented in figures 2 to 11. The temperatures at given pressure levels of 1000, 500, 300, 150, 100, 70, 50, and 10 millibars (1 millibar = 100 Pa) are provided by NOAA for each SAM II measurement. These are averaged to give a temperature at each pressure level and plotted at the average altitude of that level. The horizontal bars on both the extinction and temperature profiles show the one-standard-deviation range in the data. When available the tropopause height (averaged over each week) is indicated by a horizontal arrow near the left ordinate. The average latitude for the week is given on each plot.

EXTINCTION ISOPLETHS

Figures 12 to 63 present isopleths of aerosol extinction and temperature contours for a 1-day sample taken from each week of the 6-month period. The extinction isopleths are plotted as extinction as a function of altitude and longitude and were generated from the 14 individual extinction profiles for the particular day by using a cubic-spline contouring program. The tension of the cubic-spline fit was set at 2.5. Once again, because of the large amount of data, all the isopleths obtained are not presented. Instead, 1 day from each week has been randomly chosen for presentation. The dates for the day are indicated in the legends as they are given in the computer. The decimal fraction refers to the time of day. (For example, November 5.96 means 11:02 p.m. on November 5.) The values labeled on the extinction isopleths are scaled by 10^5, and the value of the kth contour is equal to 1.32 times the value of the $k - 1$ contour. The isopleth marked "12" corresponds to an extinction of 1.20×10^{-4} km^{-1}. The plotting routine used truncates decimal points, so that the lines marked "1" correspond to 1.32×10^{-5} km^{-1}. The tick marks on the horizontal axes of each figure indicate the longitude of the individual profile measurement that

was incorporated into the isopleth. The vertical line indicates the prime meridian (0° E). The tropopause height, when available, is indicated with a circle containing a plus sign (⊕). The lines between the extinction values at the tick marks are interpolations between one extinction profile and the next. This should be kept in mind when interpreting the data. Note that in some of the plots all 14 data profiles for the day were not available.

The temperature contours are labeled in kelvins and are separated by 3 K. Local minimum values are marked with an "L" and maximum values with an "H."

Figures 12 to 37 show the Arctic measurements and figures 38 to 63 show the Antarctic measurements. The plots show rather interesting variations in the aerosol as a function of longitude. These variations have not been observed in measurements obtained with other methods because this satellite system is the first to obtain a high density of measurements in a short time interval, thus allowing such plots to be made. This set of plots also enables one to observe the correlations which exist between the aerosol extinction and the temperature. For example, some of the plots reveal the presence of polar stratospheric clouds (PSC's), which occur in the Arctic in the winter. (See figs. 20 to 28.) The corresponding temperature fields show very low temperatures at the location of the PSC's. The stratospheric-cloud sightings are described in detail by McCormick et al. in reference 6. Finally, the presence of tropospheric clouds and aerosols extending up to the tropopause are easily seen.

SIX-MONTH AVERAGE OF AEROSOL EXTINCTION

Figures 64 and 65 present contours of the weekly average of aerosol extinction as a function of time. The corresponding weekly average of temperature is also shown.

In each figure the average weekly aerosol extinction at 1-km altitude intervals is plotted as a function of altitude and time. Each average weekly aerosol value can be regarded as a zonal mean since the latitude coverage is only about 1 degree per week and measurements made during a week span 360° longitude, with a spacing of about 4°. The temperature plots were generated by evaluating the weekly average temperature at 1-km intervals and plotting isotherms as a function of altitude and time. Figure 64 is for the Northern Hemisphere and figure 65 is for the Southern Hemisphere. Further descriptions and analyses of these plots are found in McCormick et al. (ref. 7).

OPTICAL DEPTH

Tables I and II contain weekly averaged values of the aerosol optical depth for the Arctic and Antarctic measurements. The optical-depth value depends critically on the method used for its evaluation. The optical depths are obtained by evaluating the integral of each extinction profile from a given altitude to 30 km. These profiles were evaluated from 2 km above the tropopause up to 30 km. The optical depths obtained from all the extinction profiles during a given week are then averaged and the resultant values are presented in the tables, week by week, for the period covered by this report. An optical-depth value of 100 is 100×10^{-5}, or 0.001. Also included in the tables are the average latitude of the measurement point and the average tropopause height for the particular week.

CONCLUDING REMARKS

This report has presented a representative sample and summaries of the third 6 months (Oct. 28, 1979, to Apr. 26, 1980) of the Stratospheric Aerosol Measurement (SAM) II satellite data. It is divided into Arctic and Antarctic measurements and includes consecutive weekly averages of aerosol extinction profiles, a representative 1-day isopleth (contours of aerosol extinction as a function of altitude and longitude) for each week, and contours of the weekly average of aerosol extinction as a function of altitude and time for this 6 months. In addition, the stratospheric aerosol optical depth, averaged for each week, is given in tabular form. Temperature data, provided by the National Weather Service from their gridded analysis corresponding to the time and location of the SAM II measurement, are included with the aerosol extinction data. They are plotted as average temperature profiles, or contours, or tropopause heights.

At the time of this report, about 4 1/2 years after its launch in October 1978, SAM II continues to provide high-quality data. This report is intended to provide representative and summary data in a ready-to-use visual format for rapid use in atmospheric and climatic studies. It is intended that future 6-month reports using this same format continue to be published.

Langley Research Center
National Aeronautics and Space Administration
Hampton, VA 23665
April 29, 1983

REFERENCES

1. Chu, W. P.; and McCormick, M. P.: Inversion of Stratospheric Aerosol and Gaseous Constituents From Spacecraft Solar Extinction Data in the 0.38-1.0-μm Wavelength Region. Appl. Opt., vol. 18, no. 9, May 1, 1979, pp. 1404-1413.

2. McCormick, M. P.; Hamill, Patrick; Pepin, T. J.; Chu, W. P.; Swissler, T. J.; and McMaster, L. R.: Satellite Studies of the Stratospheric Aerosol. Bull. American Meteorol. Soc., vol. 60, no. 9, Sept. 1979, pp. 1038-1046.

3. Russell, P. B.; McCormick, M. P.; McMaster, L. R.; Pepin, T. J.; Chu, W. P.; and Swissler, T. J.: SAM II Ground-Truth Plan - Correlative Measurements for the Stratospheric Aerosol Measurement-II (SAM II) Sensor on the NIMBUS G Satellite. NASA TM-78747, 1978.

4. Madrid, Charles R., ed.: The Nimbus 7 User's Guide. NASA TM-79969, 1978.

5. Russell, P. B., ed.: SAGE Ground Truth Plan - Correlative Measurements for the Stratospheric Aerosol and Gas Experiment (SAGE) on the AEM-B Satellite. NASA TM-80076, 1979.

6. McCormick, M. P.; Steele, H. M.; Hamill, Patrick; Chu, W. P.; and Swissler, T. J.: Polar Stratospheric Cloud Sightings by SAM II. J. Atmos. Sci., vol. 39, no. 6, June 1982, pp. 1387-1397.

7. McCormick, M. P.; Chu, W. P.; Grams, G. W.; Hamill, Patrick; Herman, B. M.; McMaster L. R.; Pepin, T. J.; Russell, P. B.; Steele, H. M.; and Swissler, T. J.: High-Latitude Aerosols Measured by the SAM II Satellite System in 1978 and 1979. Science, vol. 214, no. 4518, Oct. 16, 1981, pp. 328-331.

TABLE I.- AVERAGE OPTICAL DEPTH FOR ARCTIC REGION

Week beginning -	Latitude, °N	Average tropopause height, km	Average optical depth measured from tropopause plus 2 km
Oct. 28, 1979	72.7	9.30	148.9×10^{-5}
Nov. 4, 1979	71.0	8.97	150.8
Nov. 11, 1979	69.4	8.84	151.3
Nov. 18, 1979	67.9	9.04	147.9
Nov. 25, 1979	66.8	9.11	156.0
Dec. 2, 1979	65.8	8.52	166.1
Dec. 9, 1979	65.2	8.83	163.8
Dec. 16, 1979	64.9	9.26	165.1
Dec. 23, 1979	65.0	9.29	169.4
Dec. 30, 1979	65.4	9.40	219.4
Jan. 6, 1980	66.2	9.59	174.9
Jan. 13, 1980	67.3	9.30	168.3
Jan. 20, 1980	68.7	9.74	248.4
Jan. 27, 1980	70.3	9.65	290.7
Feb. 3, 1980	72.3	9.75	299.0
Feb. 10, 1980	74.3	9.57	223.1
Feb. 17, 1980	76.5	9.04	211.6
Feb. 24, 1980	78.6	8.70	181.3
Mar. 2, 1980	80.0	9.01	175.7
Mar. 9, 1980	82.2	9.16	161.0
Mar. 16, 1980	82.8	8.57	183.8
Mar. 23, 1980	82.5	8.00	219.3
Mar. 30, 1980	81.2	8.33	204.7
Apr. 6, 1980	79.5	8.14	215.9
Apr. 13, 1980	77.5	8.24	219.8
Apr. 20, 1980	75.5	8.30	216.0

TABLE II.- AVERAGE OPTICAL DEPTH FOR ANTARCTIC REGION

Week beginning -	Latitude, °S	Average tropopause height, km	Average optical depth measured from tropopause plus 2 km
Oct. 28, 1979	74.5	9.55	90.5×10^{-5}
Nov. 4, 1979	72.6	9.48	94.5
Nov. 11, 1979	70.8	9.40	101.2
Nov. 18, 1979	69.2	9.31	119.8
Nov. 25, 1979	67.8	9.34	128.8
Dec. 2, 1979	66.7	9.23	132.5
Dec. 9, 1979	65.8	9.53	133.8
Dec. 16, 1979	65.3	9.65	126.6
Dec. 23, 1979	65.1	9.30	142.4
Dec. 30, 1979	65.2	9.09	148.9
Jan. 6, 1980	65.6	9.30	150.6
Jan. 13, 1980	66.4	9.12	155.7
Jan. 20, 1980	67.4	9.34	151.2
Jan. 27, 1980	68.7	9.13	156.0
Feb. 3, 1980	70.1	9.03	156.3
Feb. 10, 1980	71.8	8.94	163.2
Feb. 17, 1980	73.5	8.83	162.4
Feb. 24, 1980	75.2	8.46	174.1
Mar. 2, 1980	76.2	8.33	174.9
Mar. 9, 1980	78.0	8.73	165.4
Mar. 16, 1980	78.6	8.63	170.4
Mar. 23, 1980	78.6	8.66	168.4
Mar. 30, 1980	78.0	8.68	166.1
Apr. 6, 1980	76.9	8.65	172.6
Apr. 13, 1980	75.4	8.78	170.8
Apr. 20, 1980	73.8	9.07	160.1

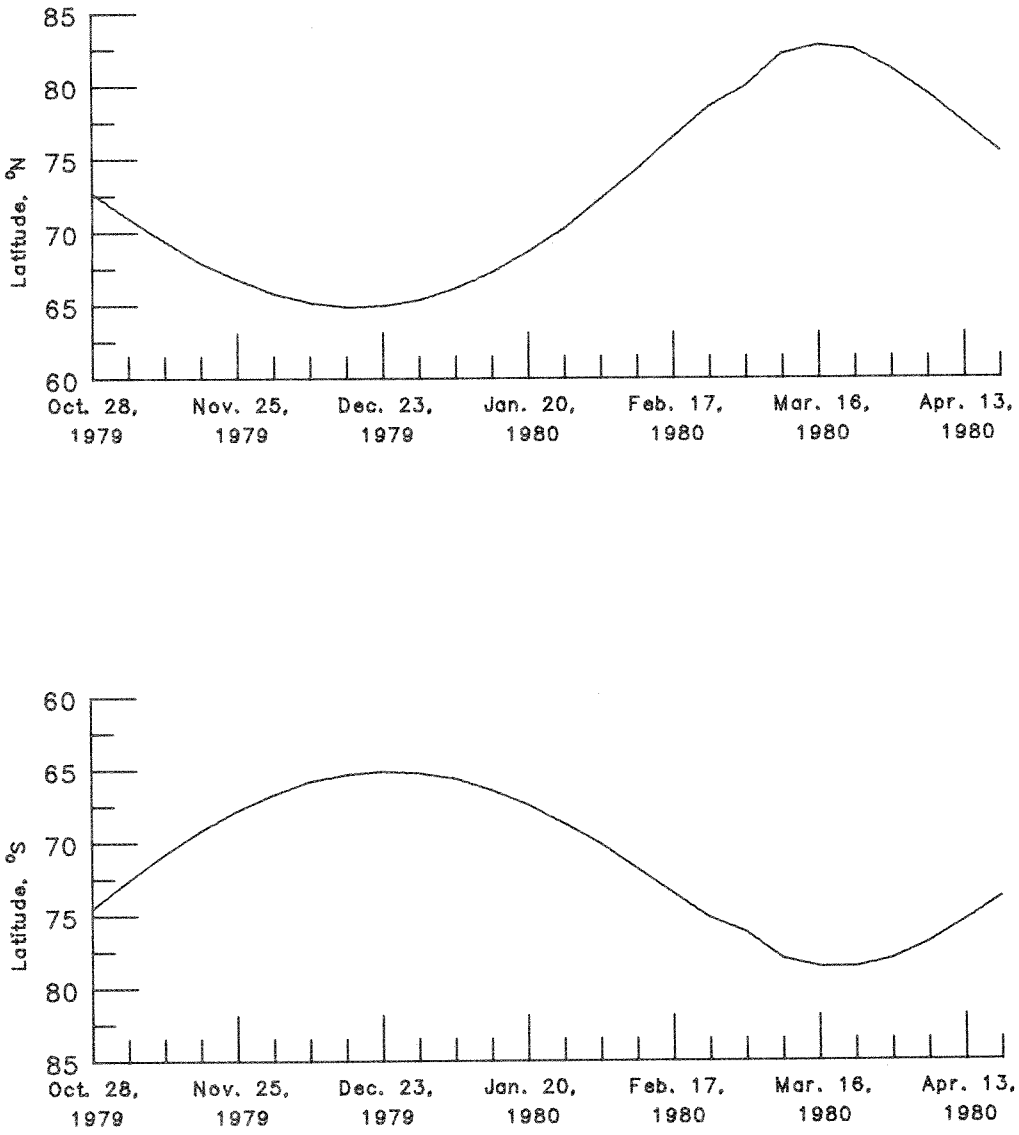


Figure 1.- Latitudinal coverage of SAM II measurements for October 1979 to April 1980.

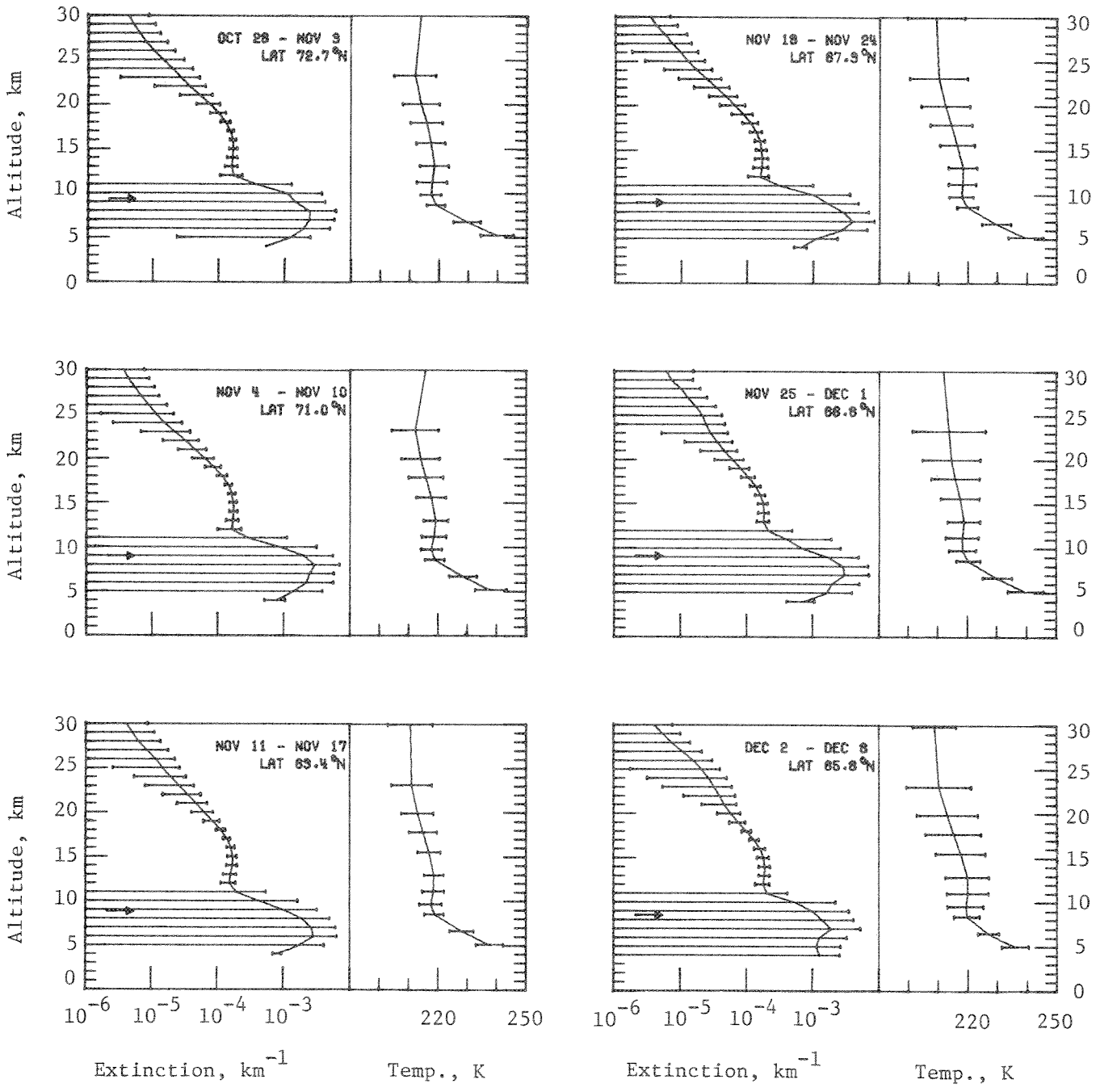


Figure 2.- Arctic extinction and temperature profiles for October 28 to December 8, 1979.

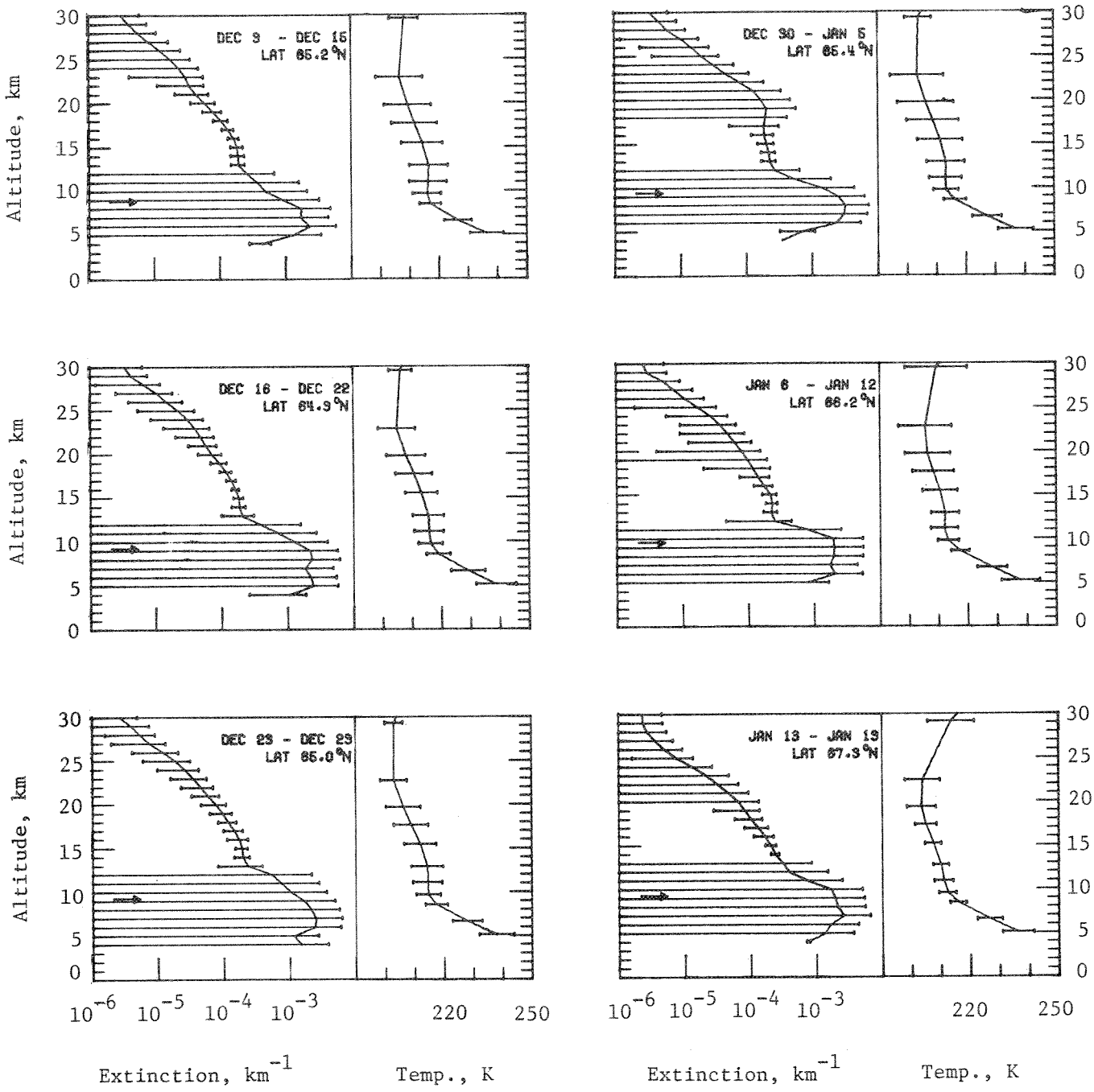


Figure 3.- Arctic extinction and temperature profiles for December 9, 1979, to January 19, 1980.

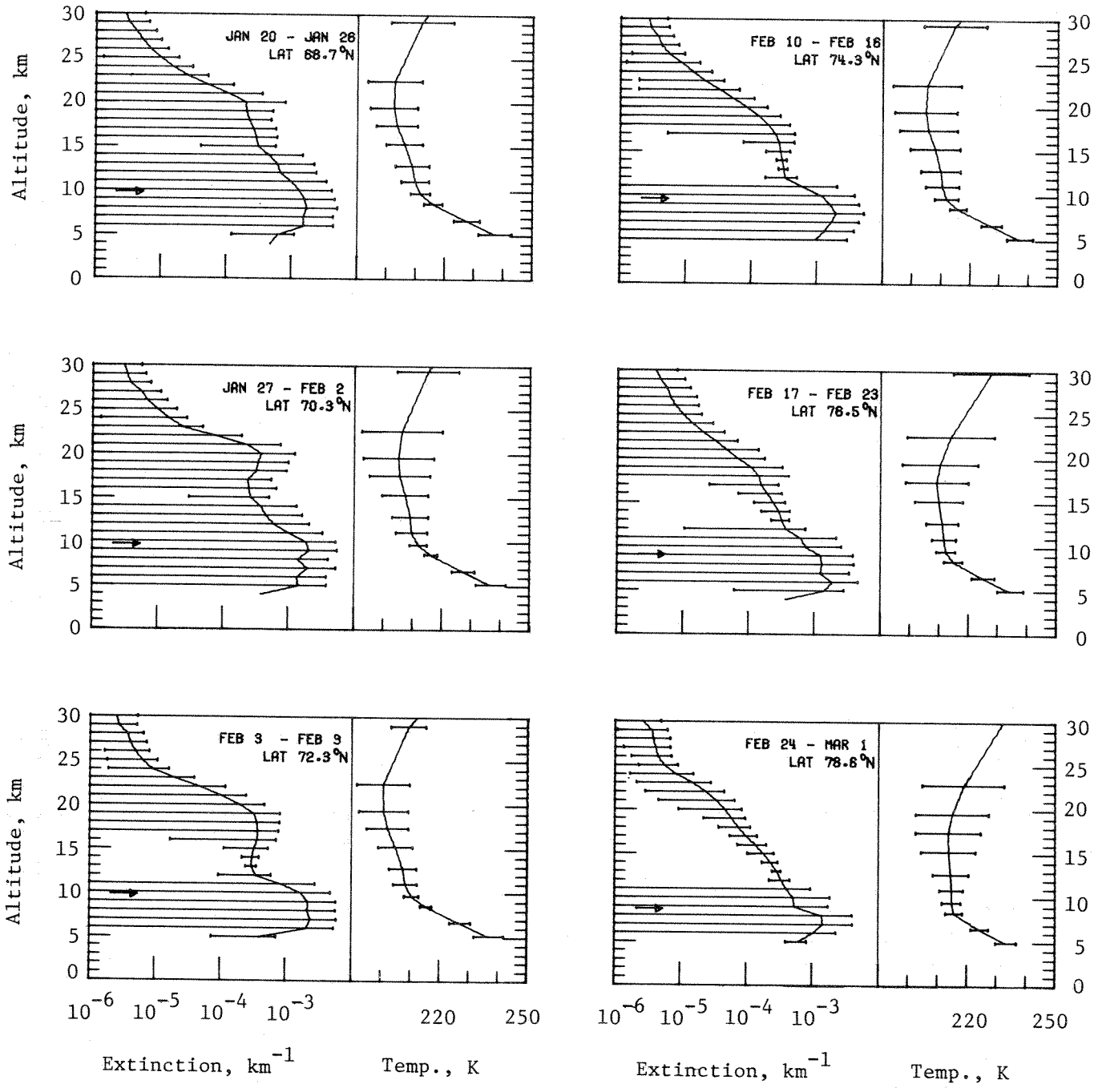


Figure 4.- Arctic extinction and temperature profiles for January 20 to March 1, 1980.

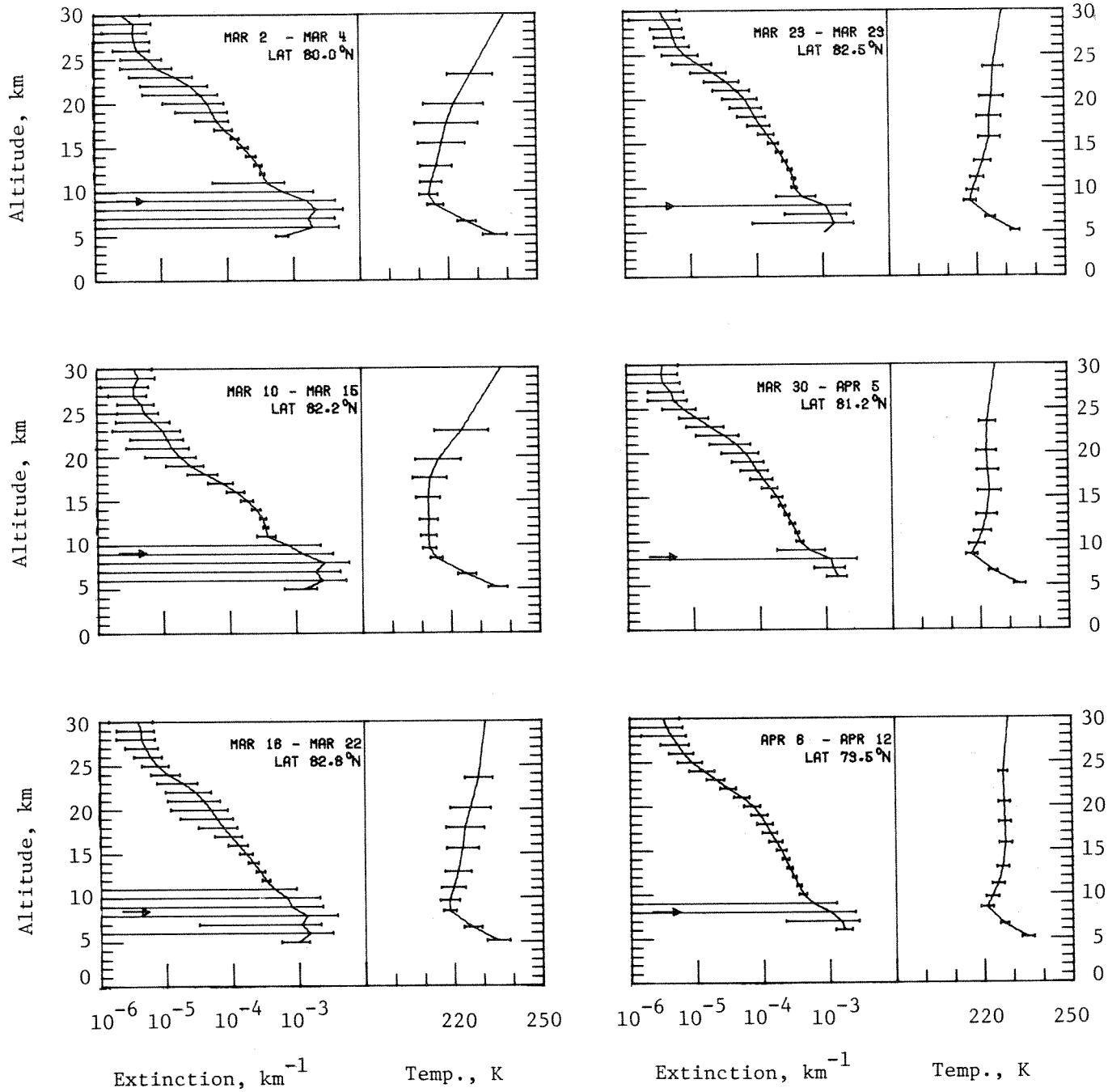


Figure 5.- Arctic extinction and temperature profiles for March 2 to April 12, 1980.

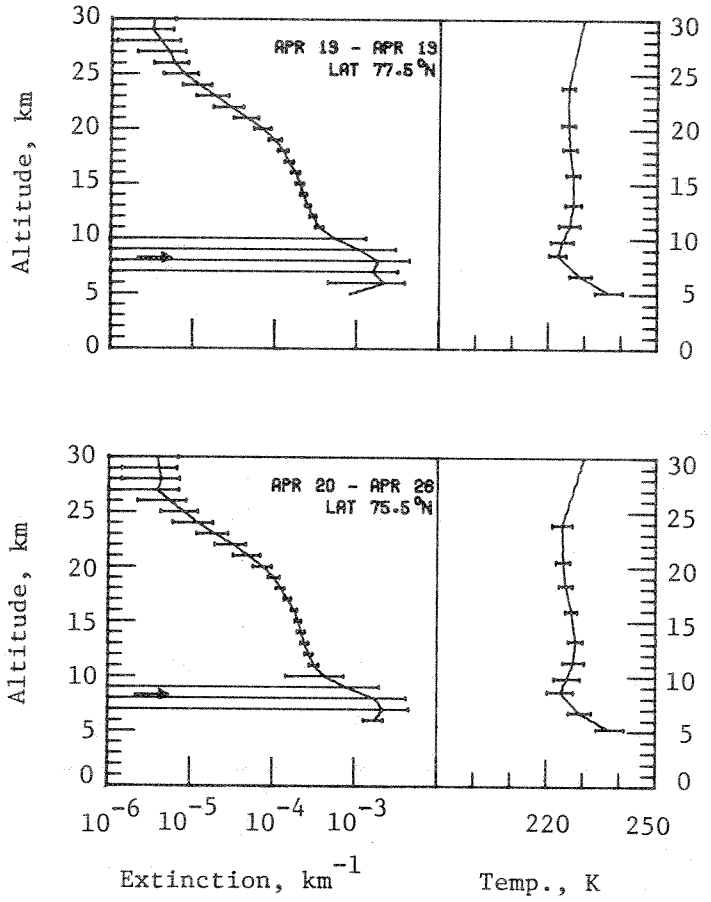


Figure 6.- Arctic extinction and temperature profiles for April 13 to April 26, 1979.

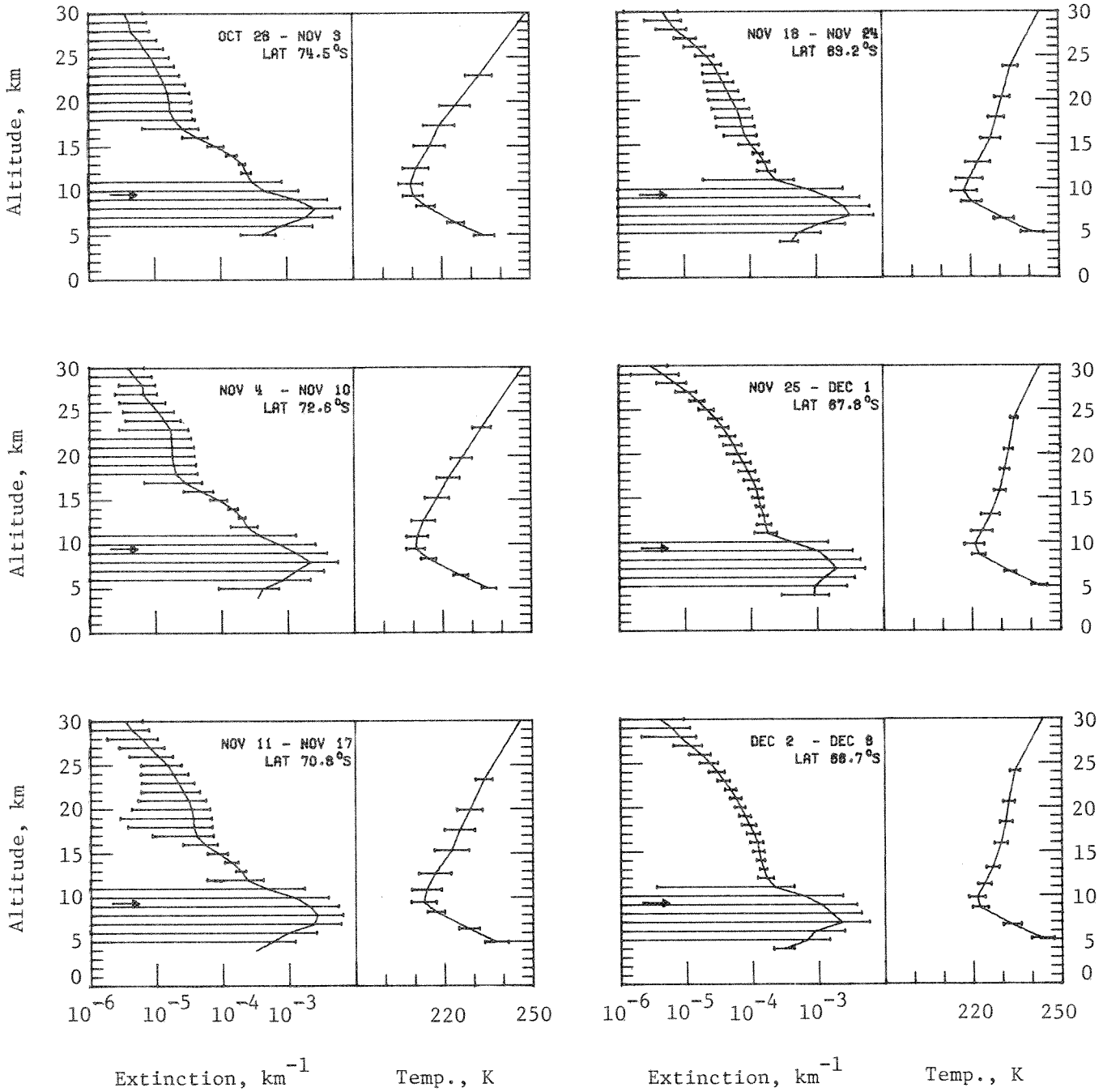


Figure 7.- Antarctic extinction and temperature profiles for October 28 to December 8, 1979.

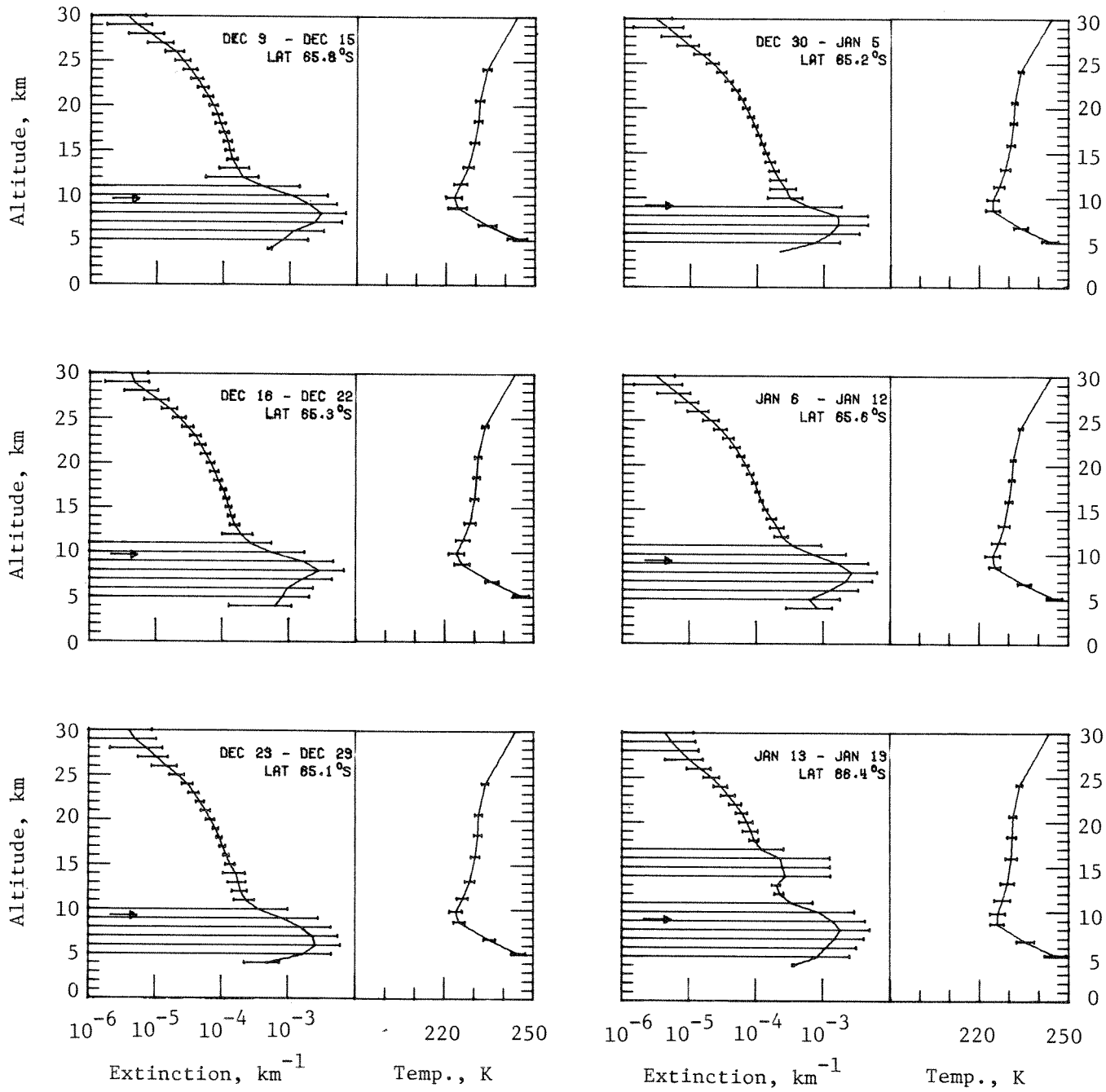


Figure 8.- Antarctic extinction and temperature profiles for December 9, 1979, to January 19, 1980.

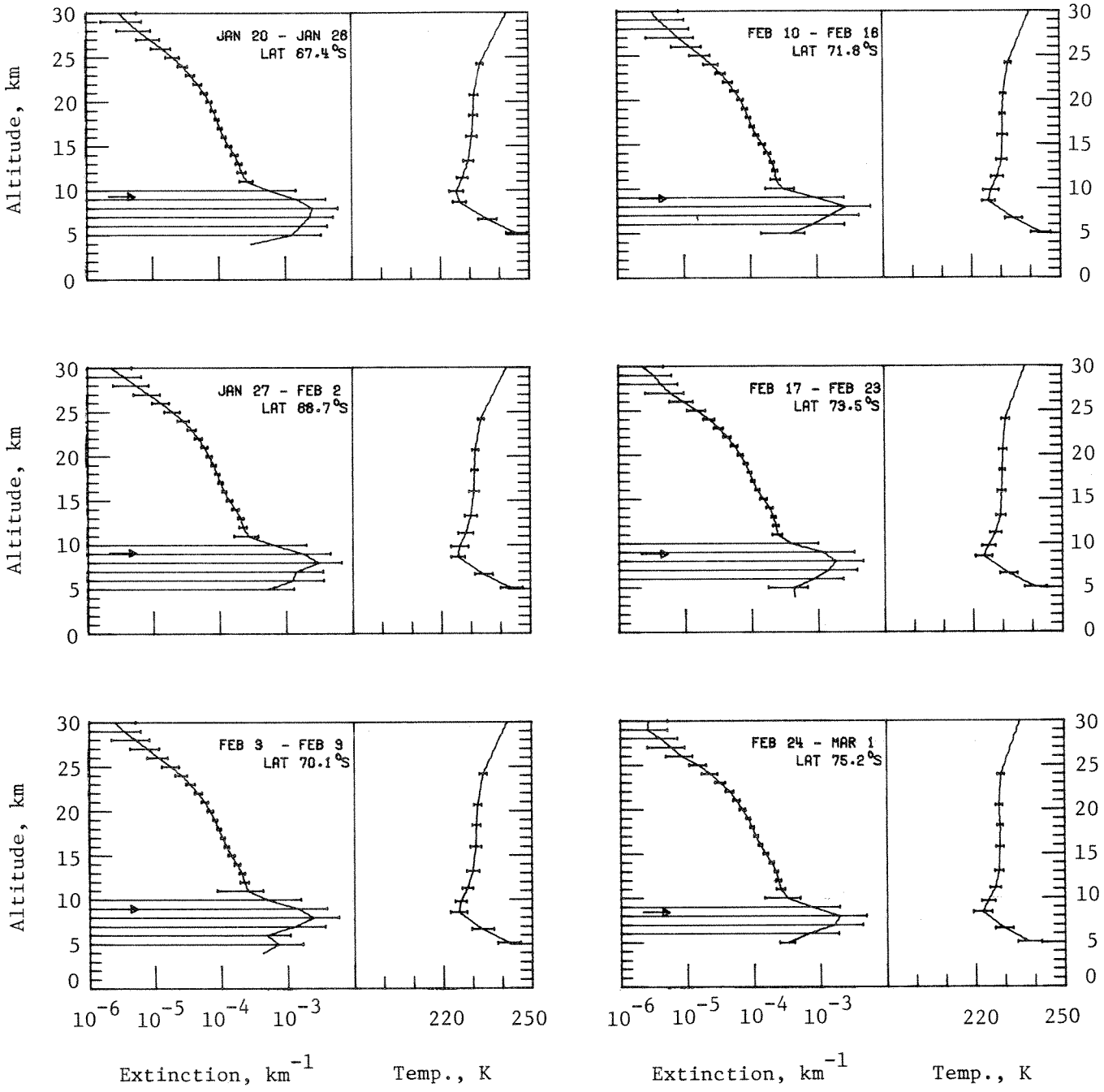


Figure 9.- Antarctic extinction and temperature profiles for January 20 to March 1, 1980.

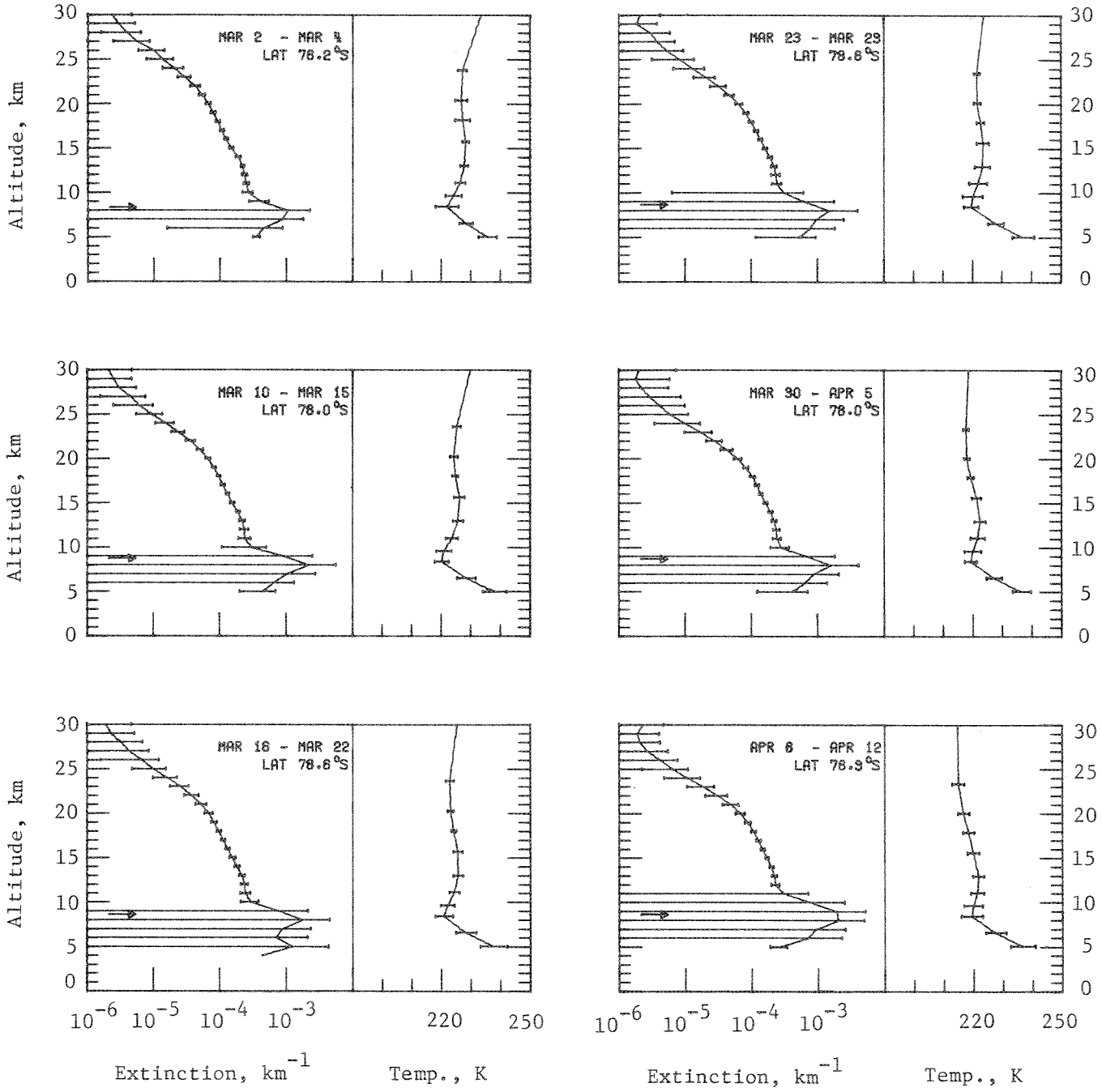


Figure 10.- Antarctic extinction and temperature profiles for March 2 to April 12, 1980.

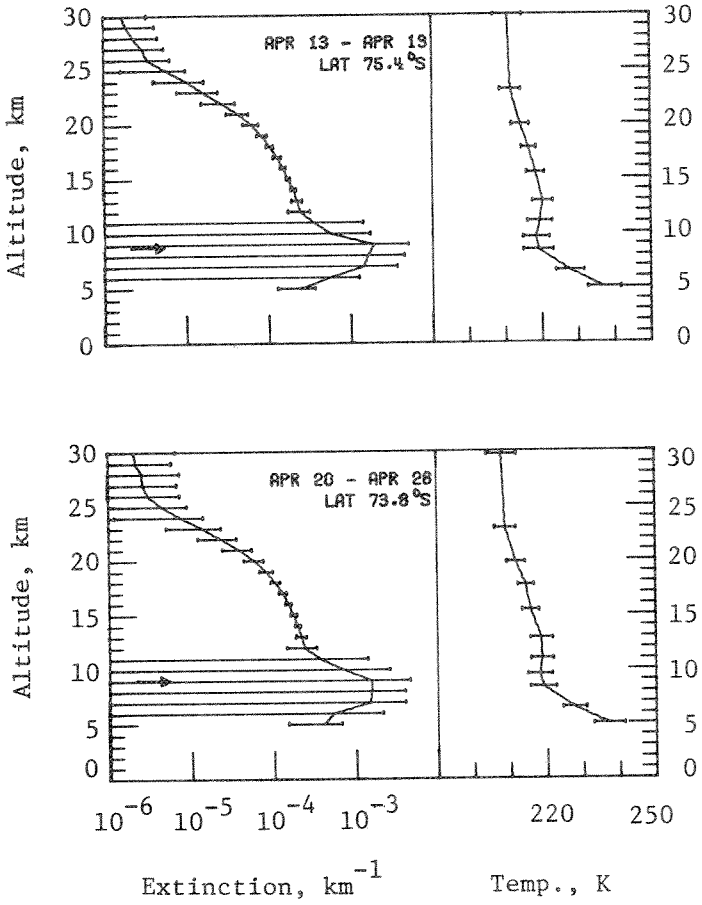
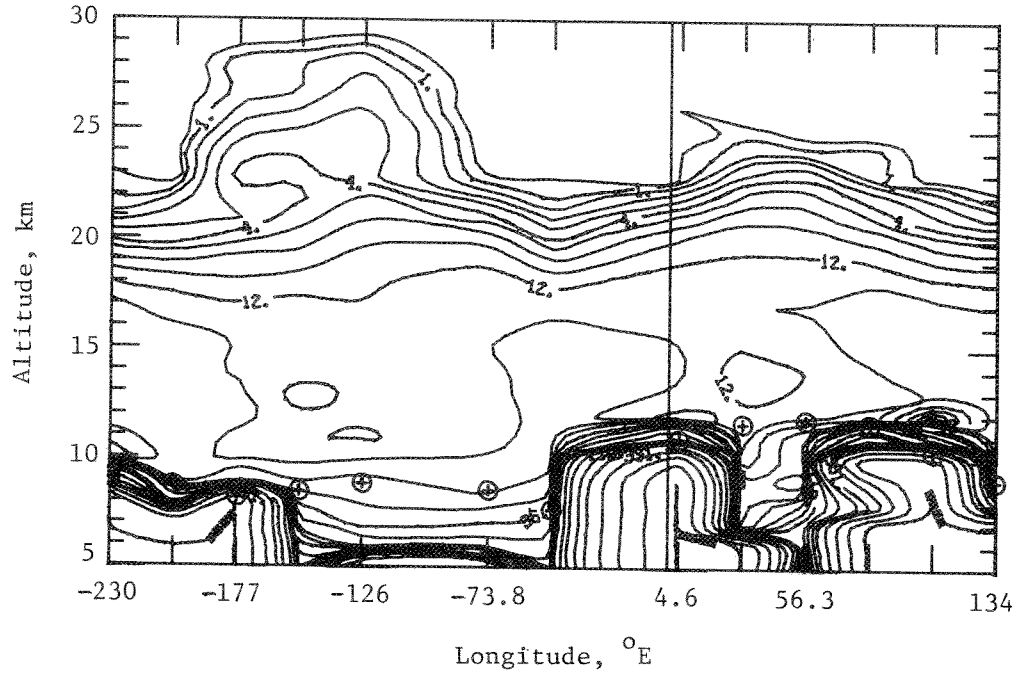
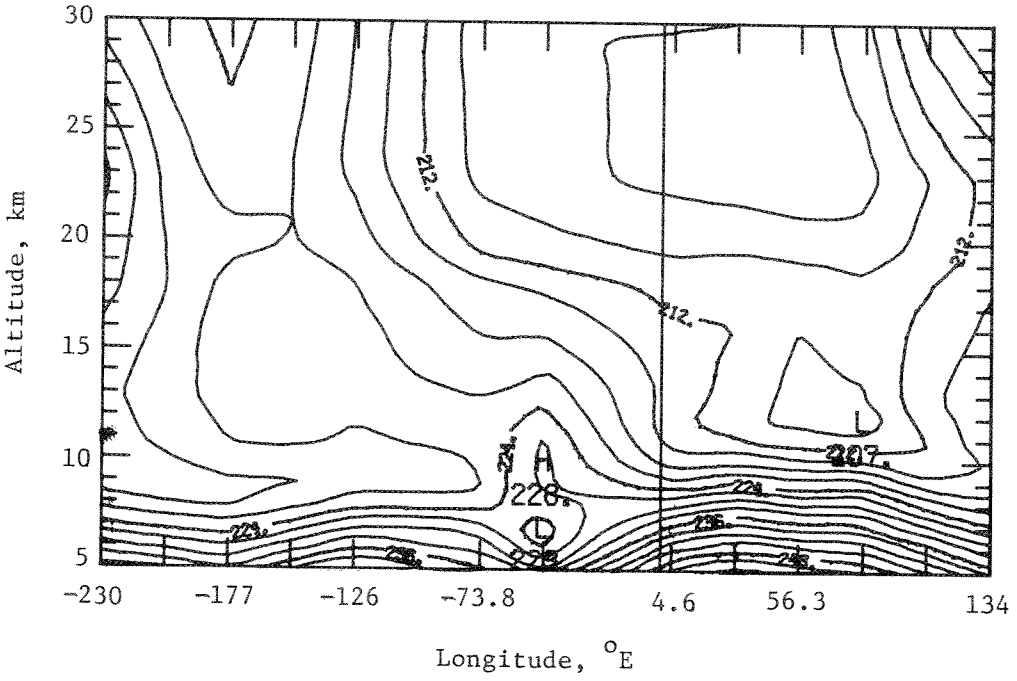


Figure 11.- Antarctic extinction and temperature profiles for April 13 to April 26, 1980.

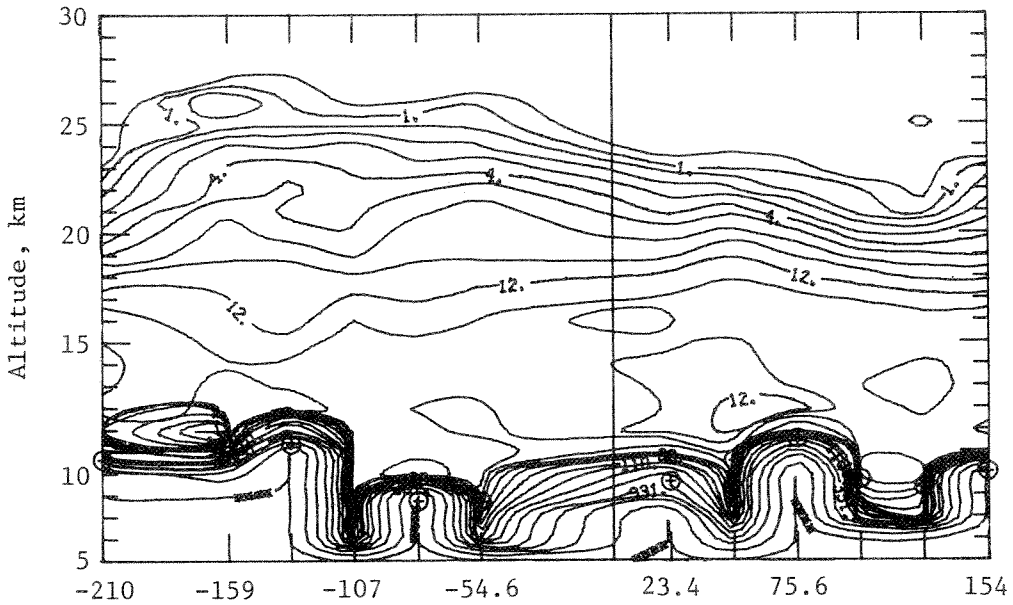


(a) Extinction isopleth.

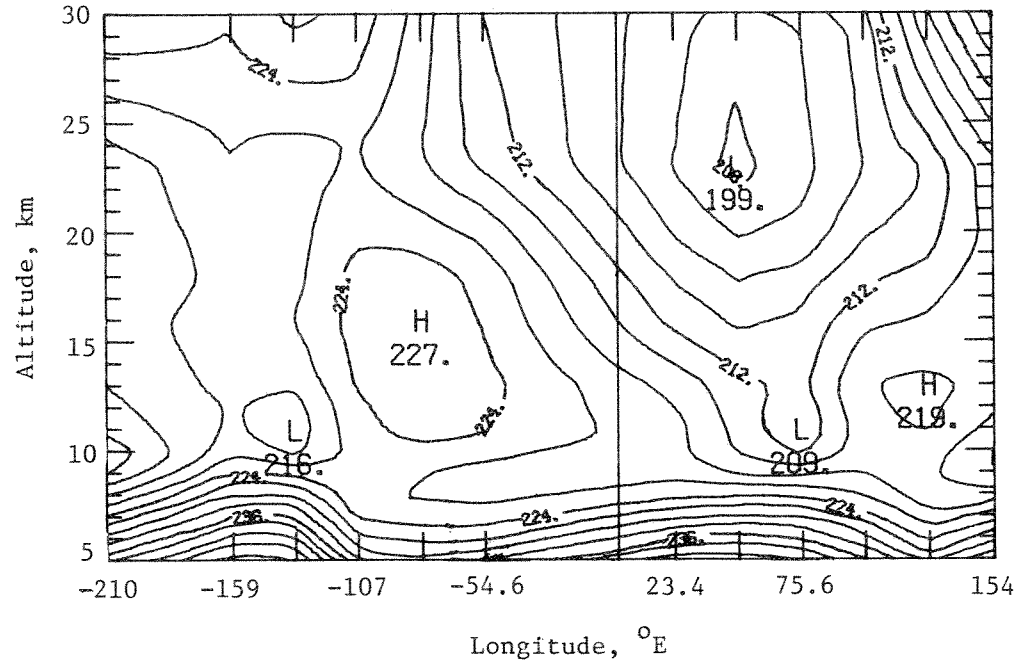


(b) Temperature contours.

Figure 12.- Arctic extinction isopleth and temperature contours for October 29.00 to 30.02, 1979, at latitudes from 73.4° to 73.1° N corresponding to orbits 5110 to 5124.

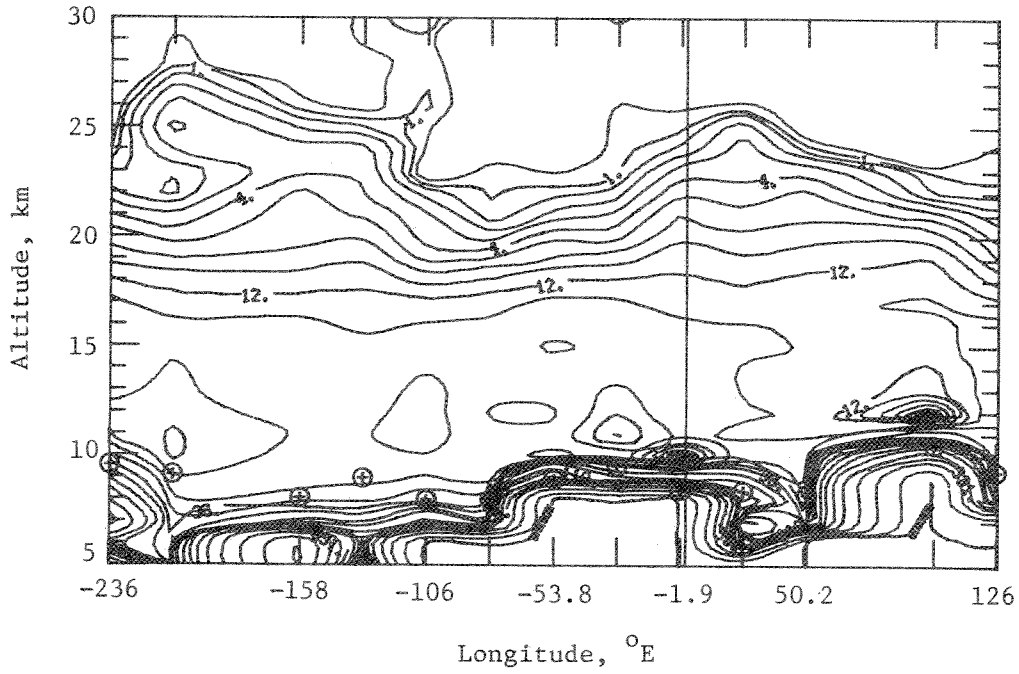


(a) Extinction isopleth.

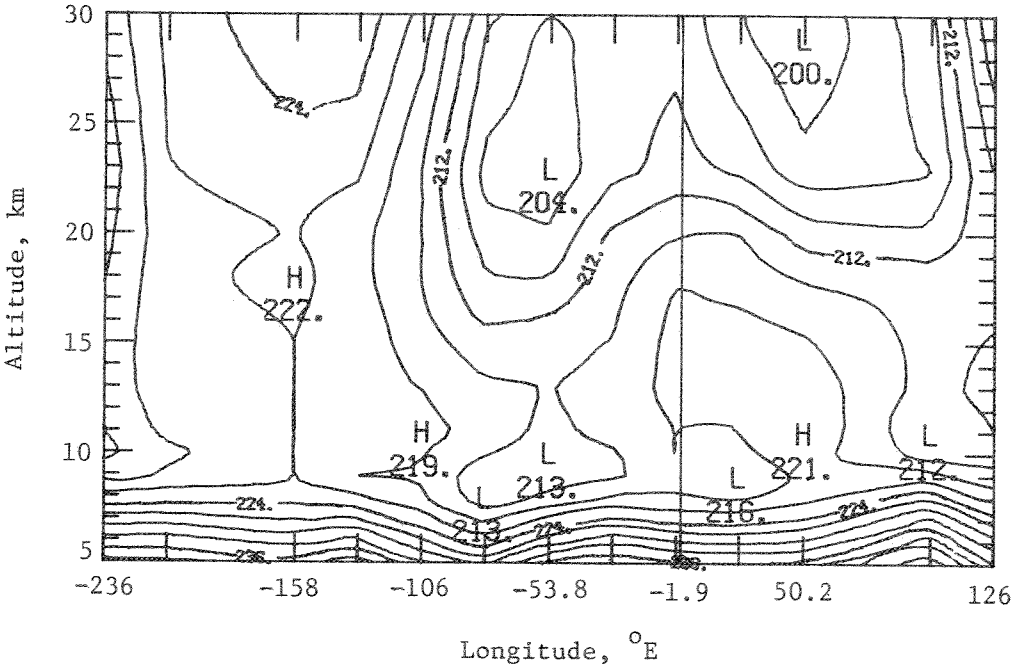


(b) Temperature contours.

Figure 13.- Arctic extinction isopleth and temperature contours for November 5.96 to 6.98, 1979, at latitudes from 71.4° to 71.1° N corresponding to orbits 5220 to 5234.

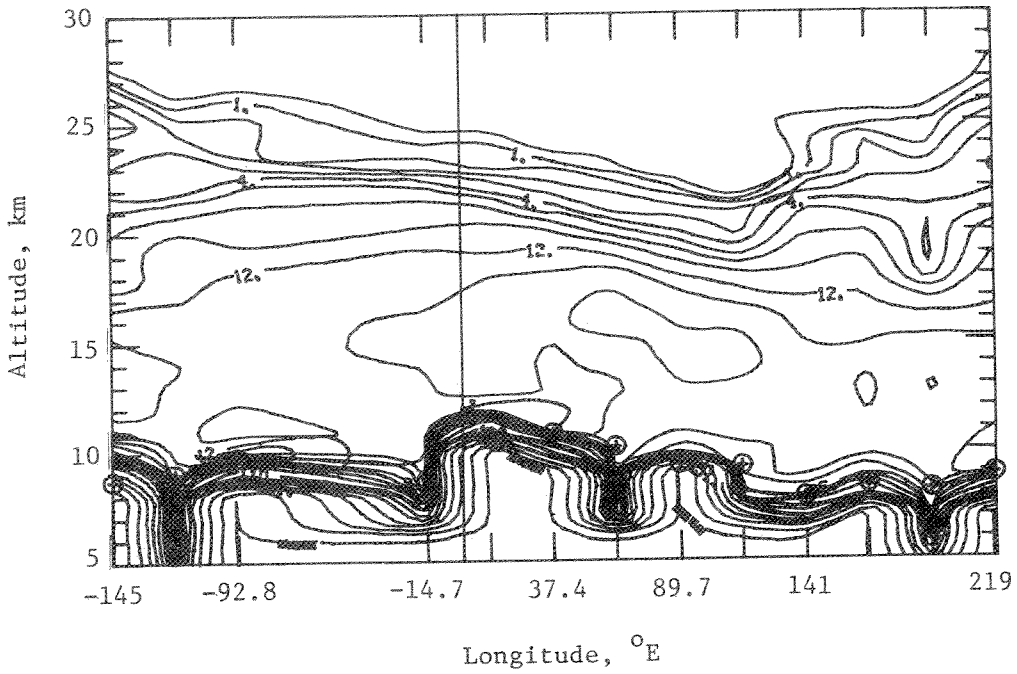


(a) Extinction isopleth.

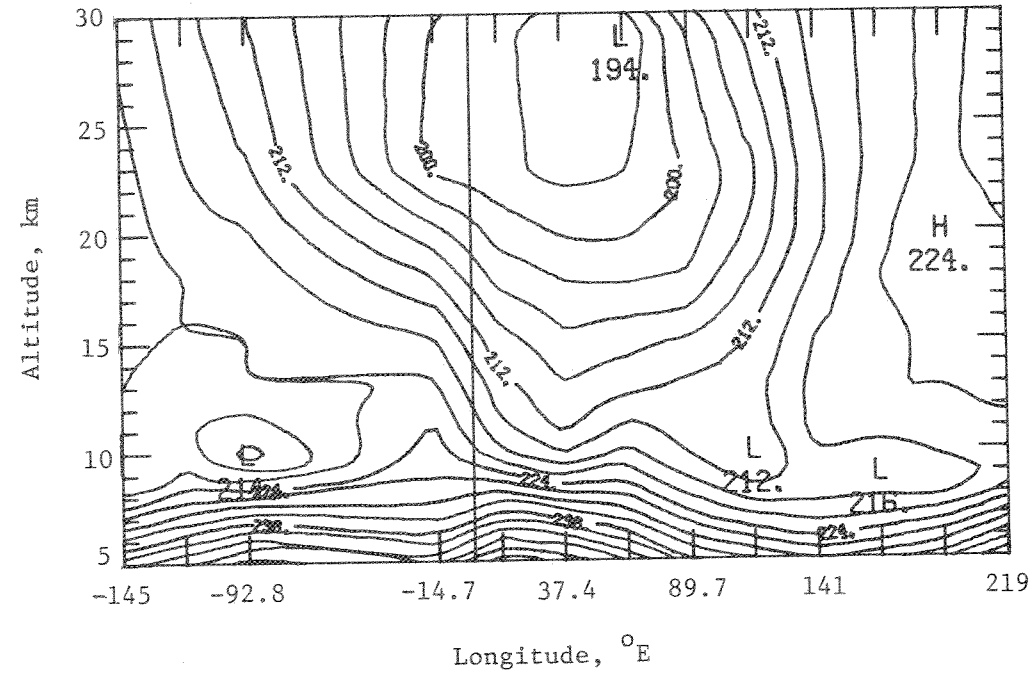


(b) Temperature contours.

Figure 14.- Arctic extinction isopleth and temperature contours for November 12.04 to 13.06, 1979, at latitudes from 69.9° to 69.7° N corresponding to orbits 5304 to 5318.

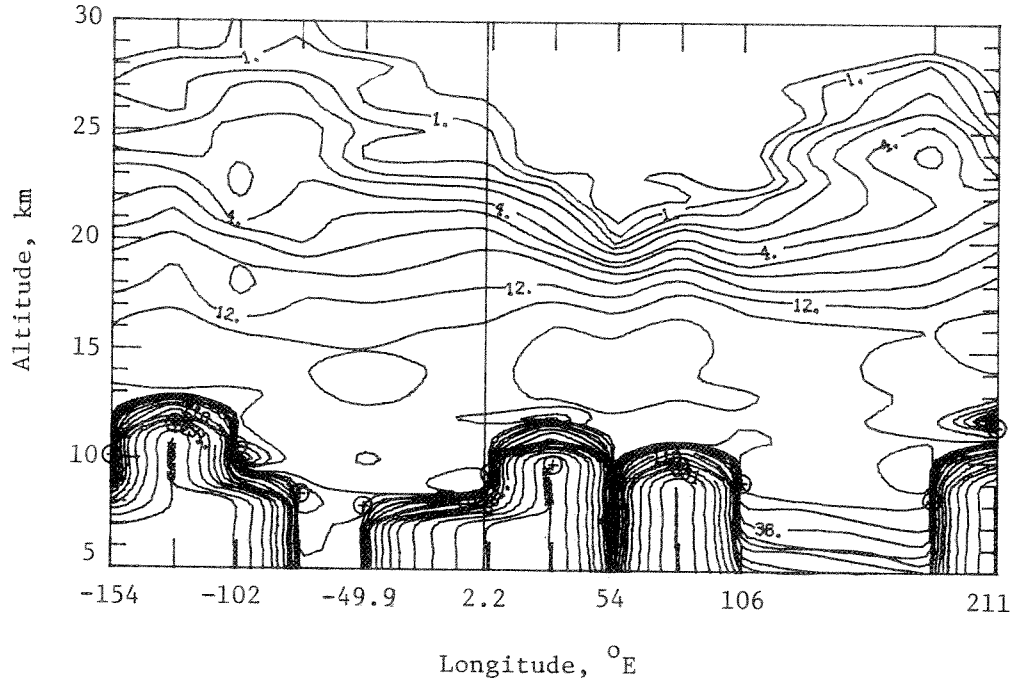


(a) Extinction isopleth.

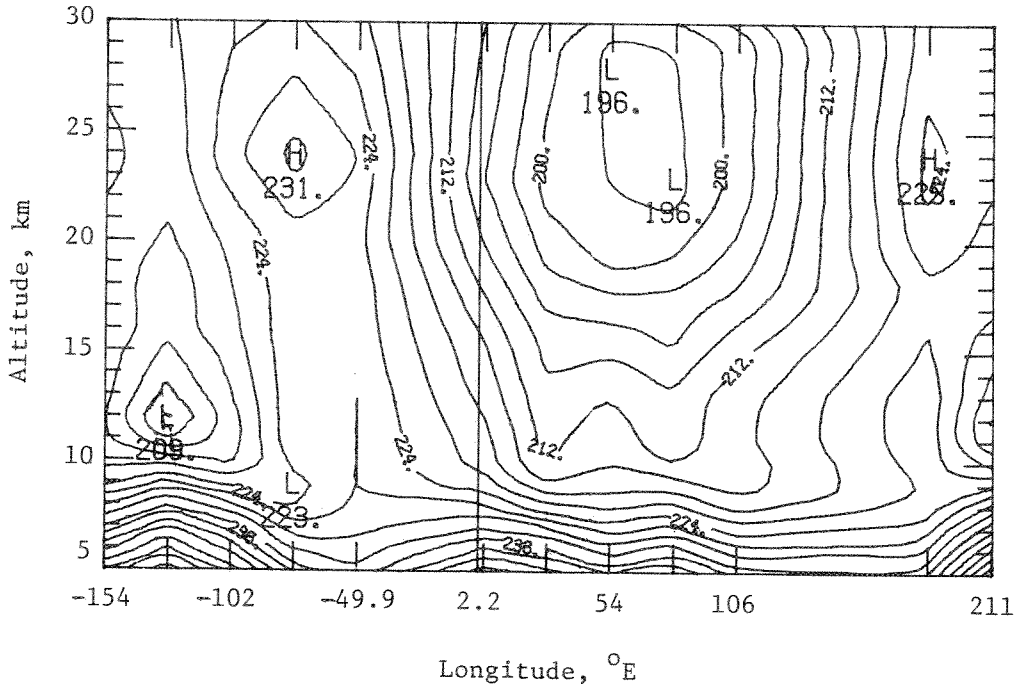


(b) Temperature contours.

Figure 15.- Arctic extinction isopleth and temperature contours for November 20.80 to 21.81, 1979, at latitudes from 68.1° to 67.9° N corresponding to orbits 5425 to 5439.

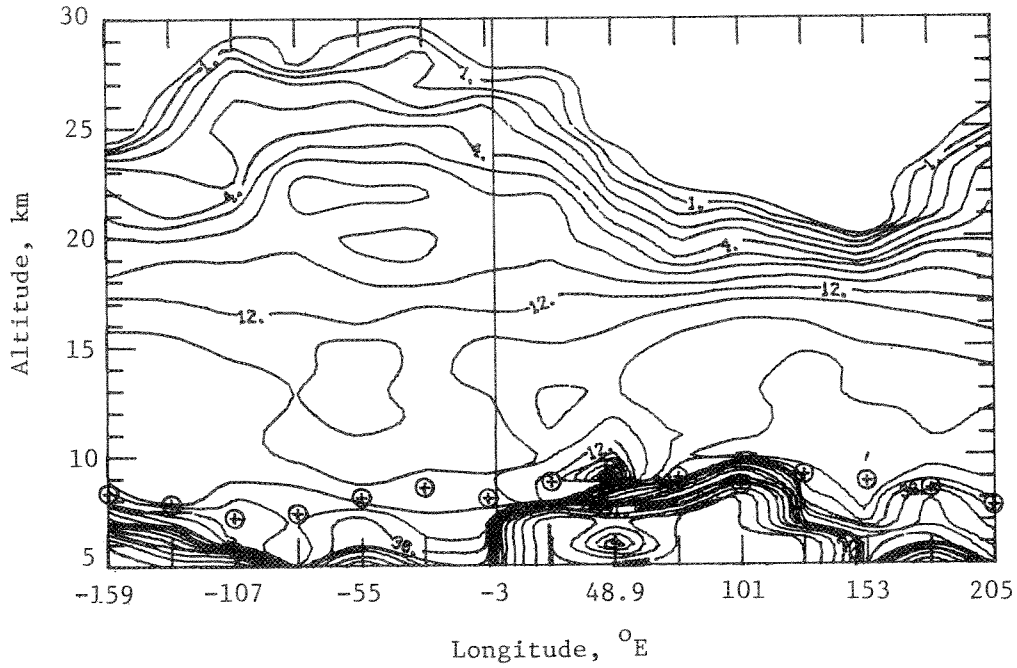


(a) Extinction isopleth.

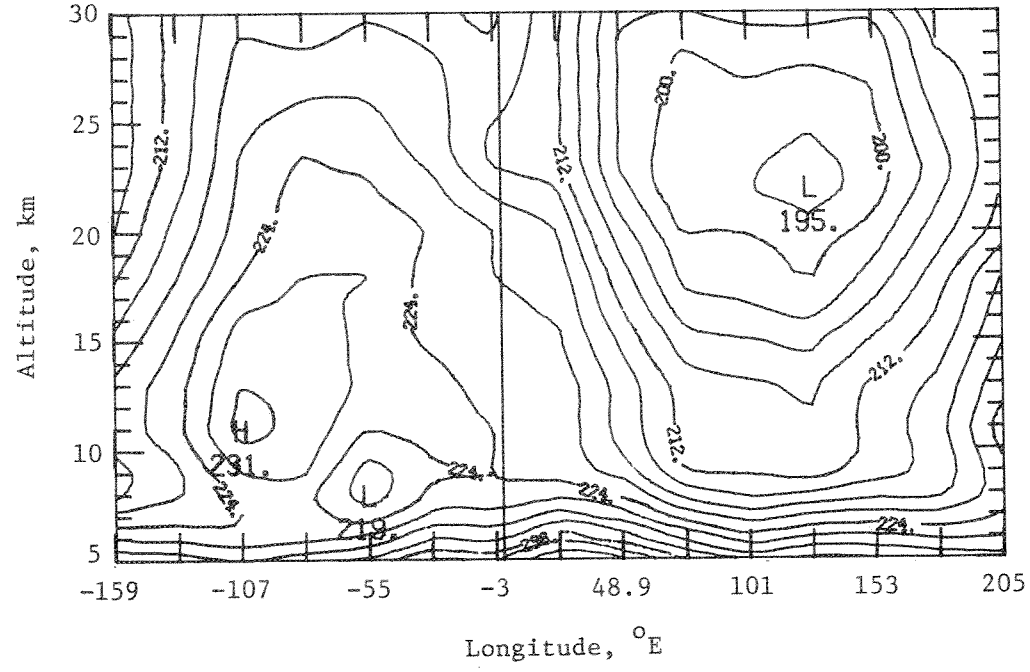


(b) Temperature contours.

Figure 16.- Arctic extinction isopleth and temperature contours for November 28.83 to 29.84, 1979, at latitudes from 66.7° to 66.6° N corresponding to orbits 5536 to 5550.

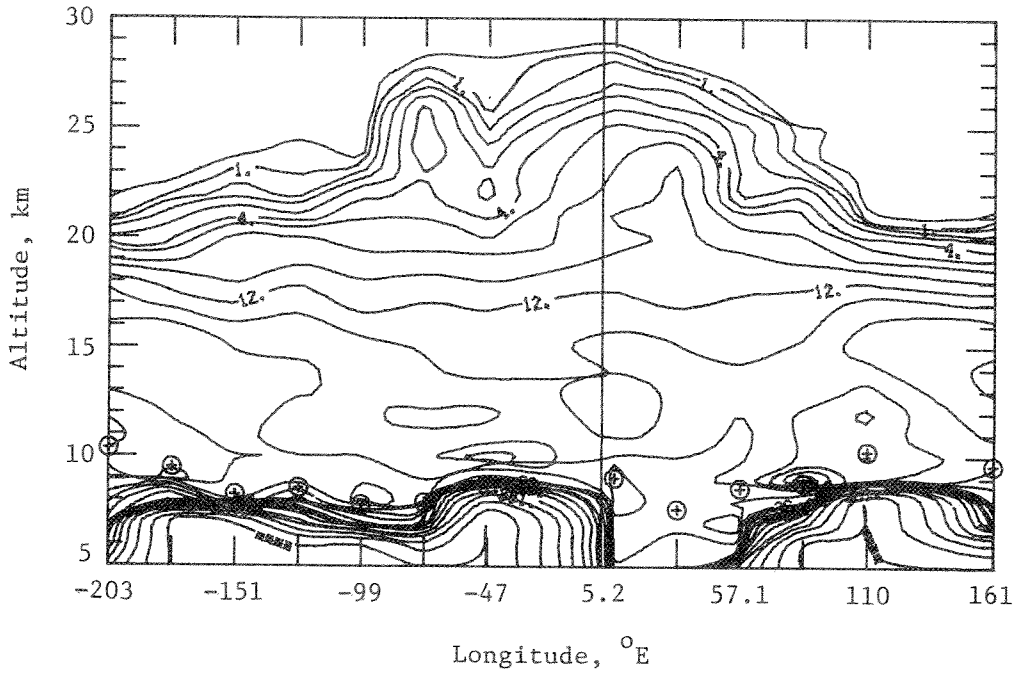


(a) Extinction isopleth.

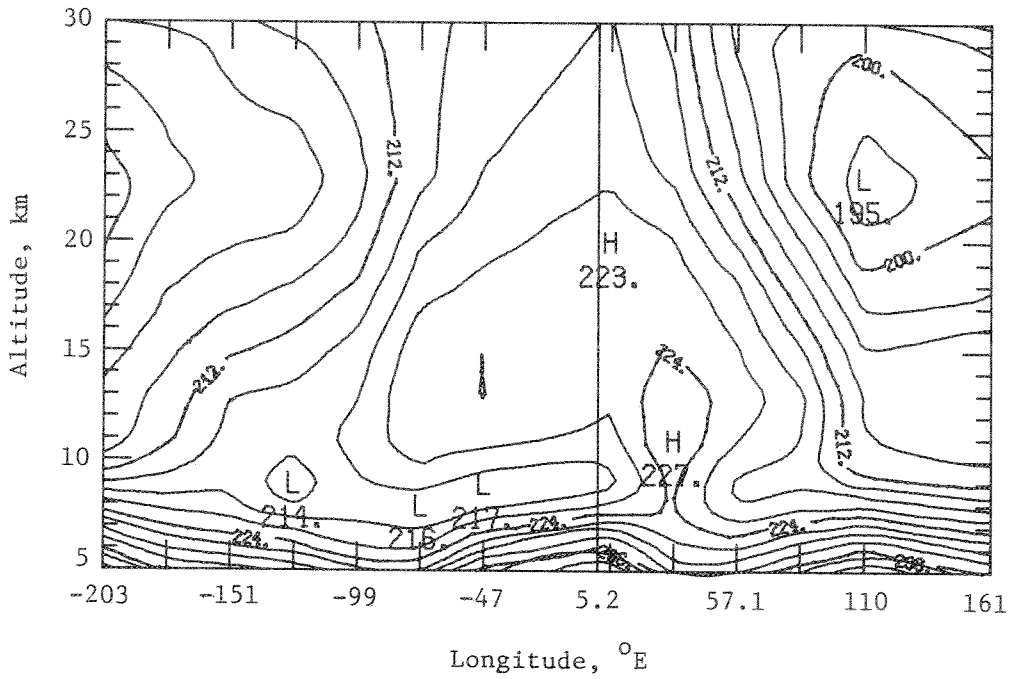


(b) Temperature contours.

Figure 17.- Arctic extinction isopleth and temperature contours for December 5.85 to 6.86, 1979, at latitudes from 65.8° to 65.7° N corresponding to orbits 5633 to 5647.

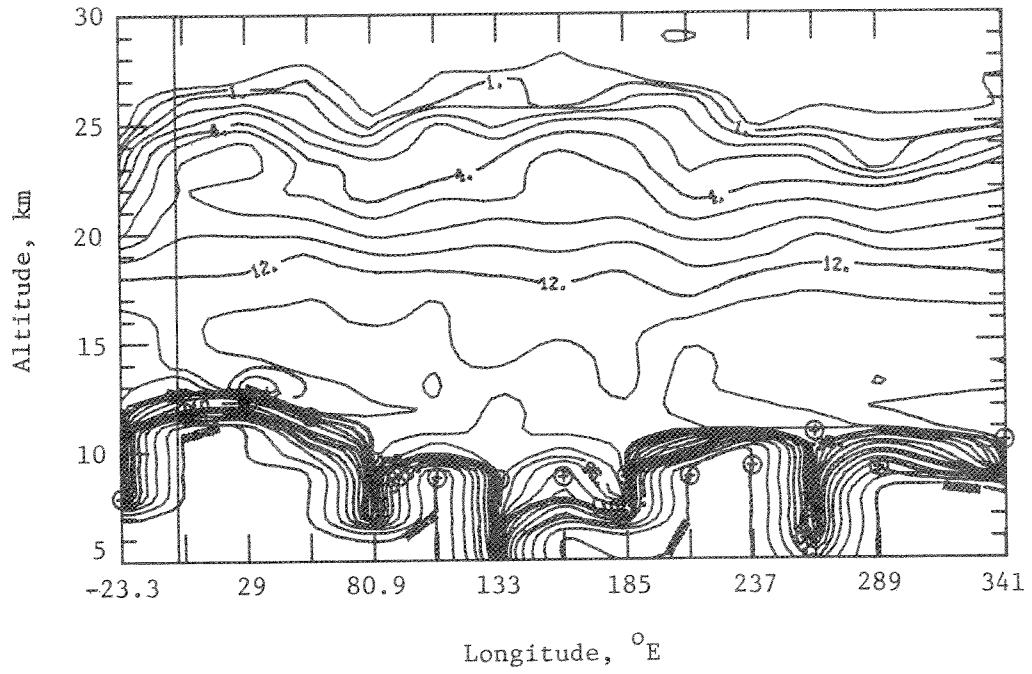


(a) Extinction isopleth.

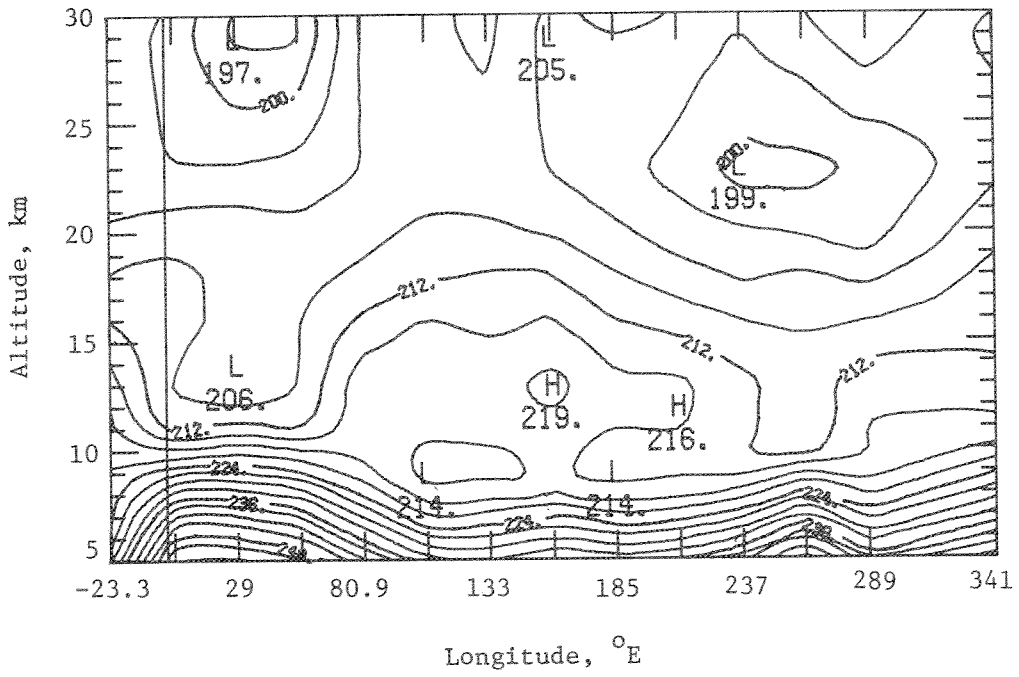


(b) Temperature contours.

Figure 18.- Arctic extinction isopleth and temperature contours for December 9.98 to 10.99, 1979, at latitudes from 65.4° to 65.3° N corresponding to orbits 5690 to 5704.

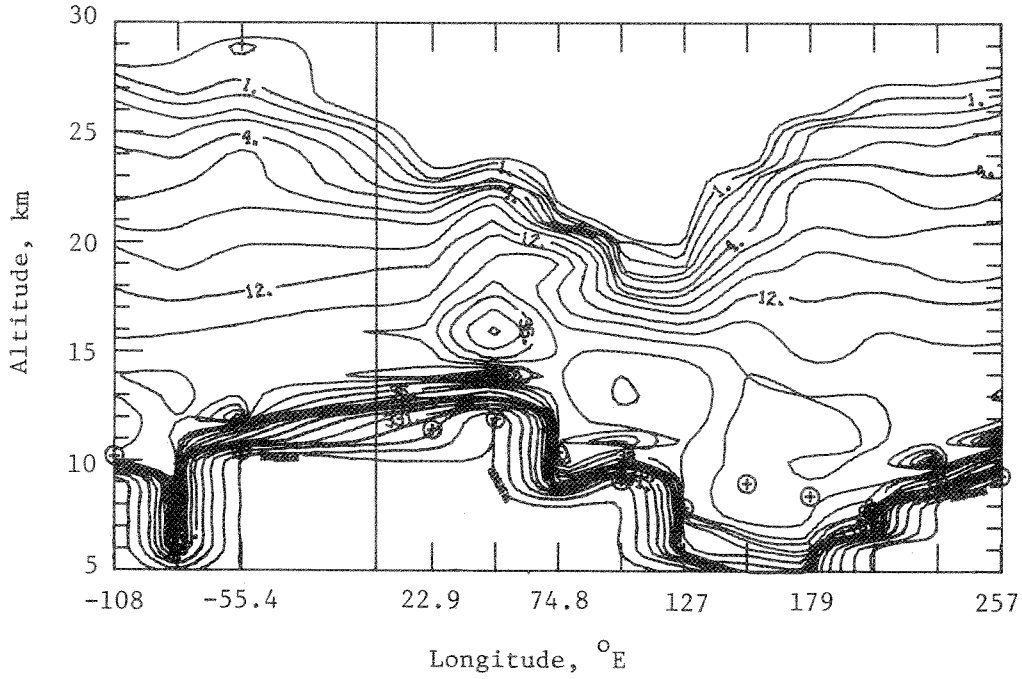


(a) Extinction isopleth.

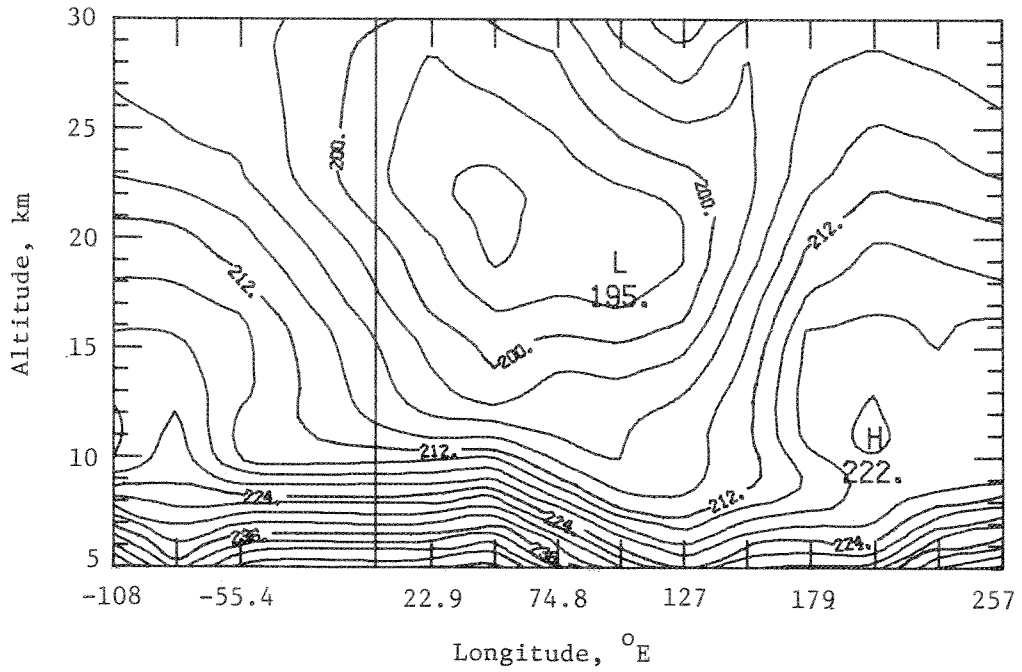


(b) Temperature contours.

Figure 19.- Arctic extinction isopleth and temperature contours for December 21.48 to 22.49, 1979, at a latitude of 64.9° N corresponding to orbits 5849 to 5863.

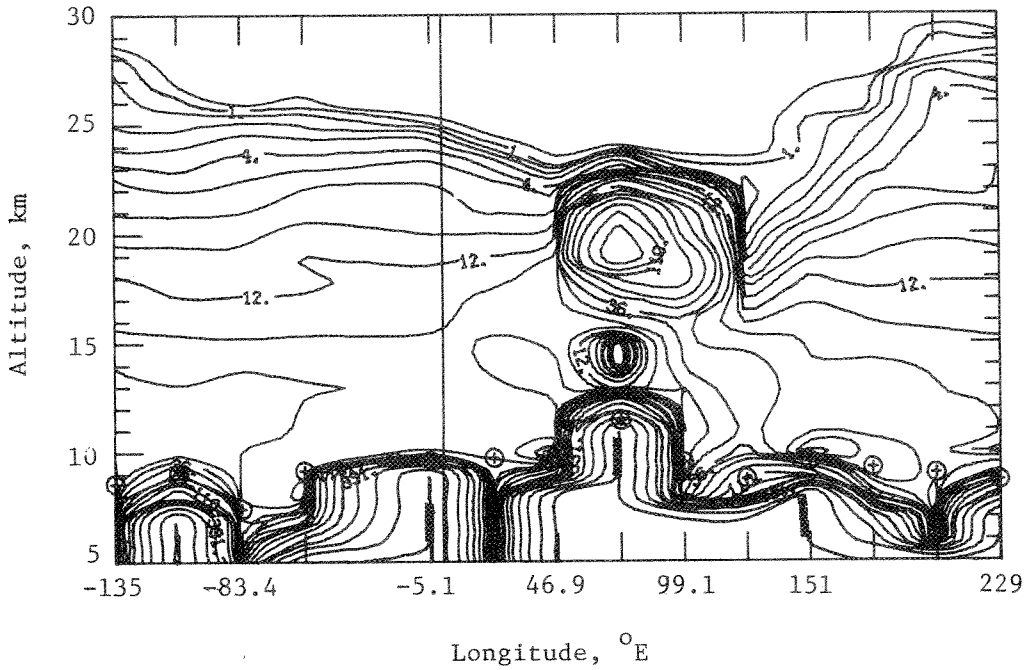


(a) Extinction isopleth.

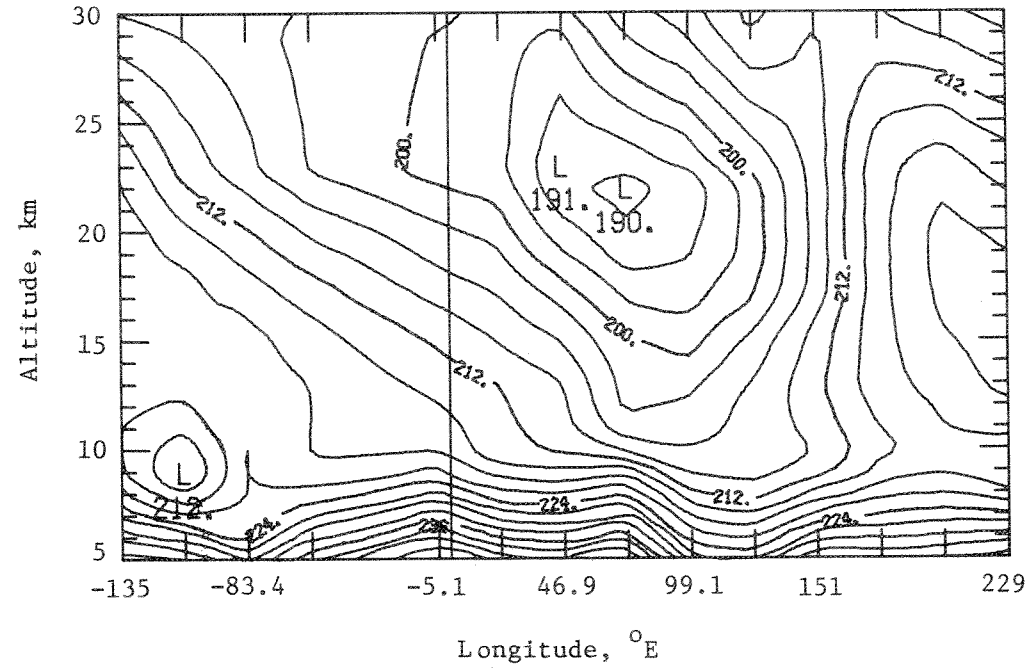


(b) Temperature contours.

Figure 20.- Arctic extinction isopleth and temperature contours for December 28.72 to 29.73, 1979, at a latitude of 65.1° N corresponding to orbits 5949 to 5963.

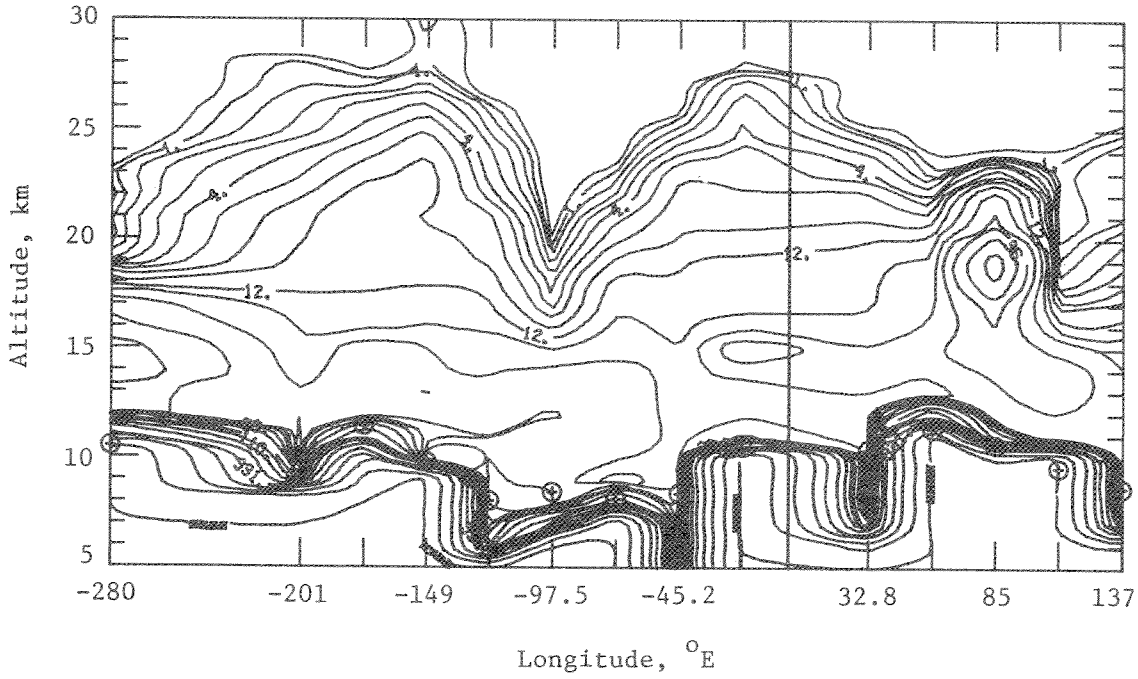


(a) Extinction isopleth.

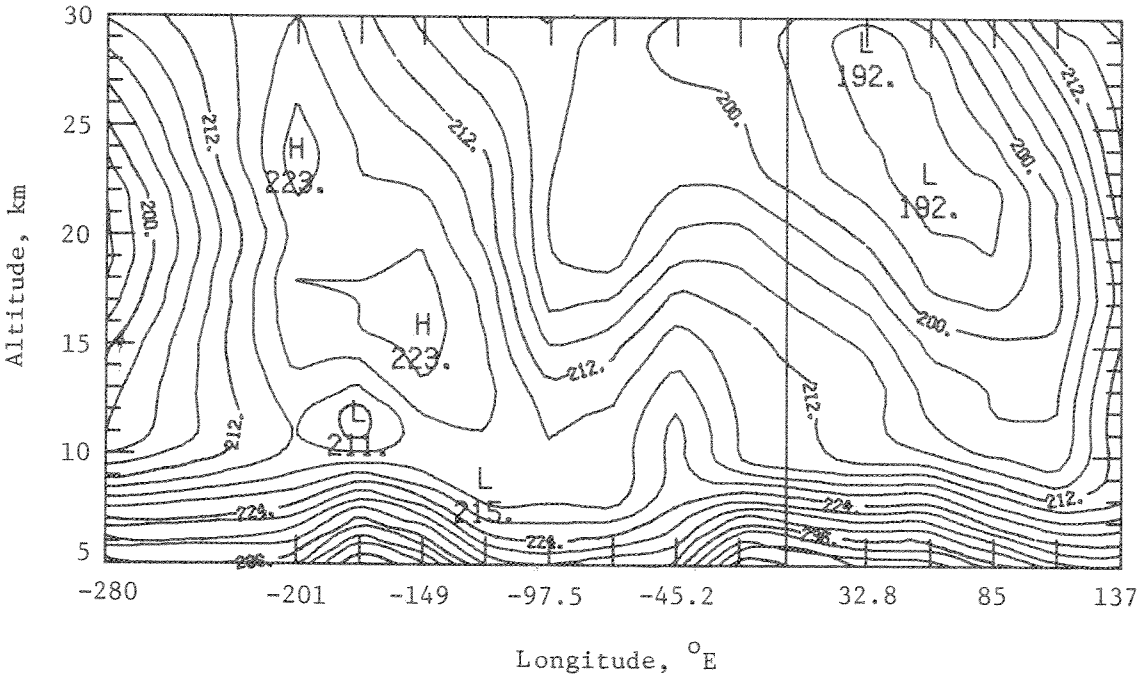


(b) Temperature contours.

Figure 21.- Arctic extinction isopleth and temperature contours for January 3.80 to 4.81, 1980, at latitudes from 65.5° to 65.6° N corresponding to orbits 6033 to 6047.

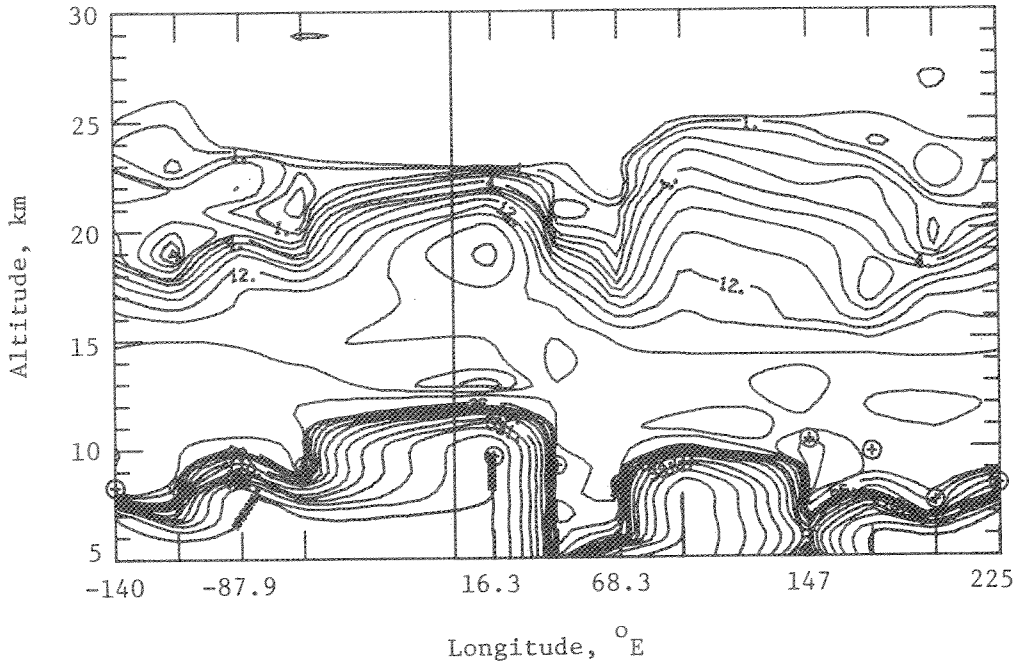


(a) Extinction isopleth.

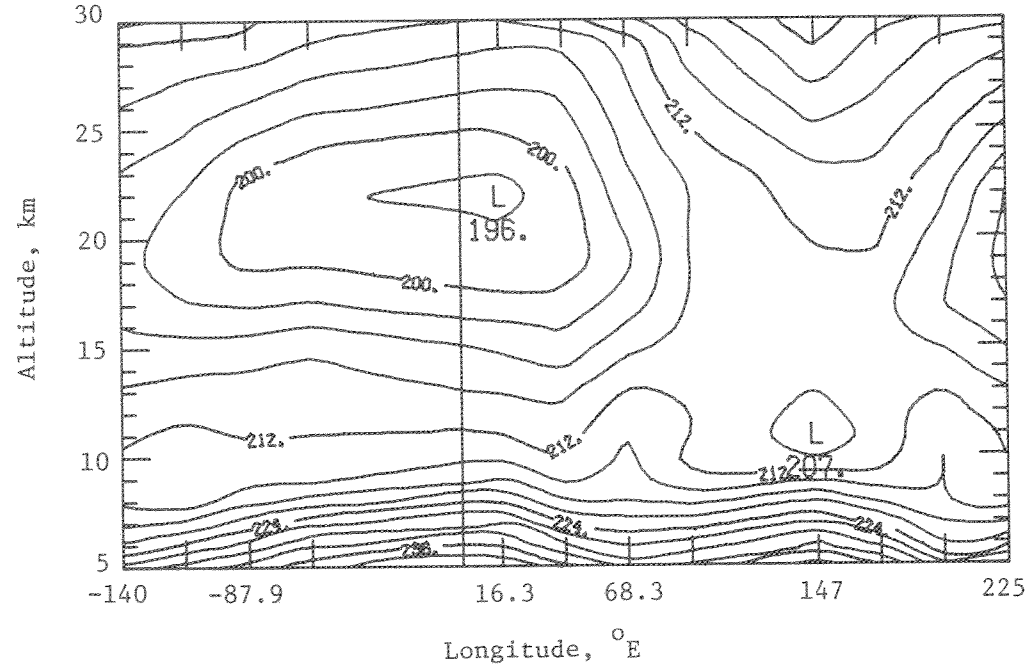


(b) Temperature contours.

Figure 22.- Arctic extinction isopleth and temperature contours for January 7.05 to 8.21, 1980, at latitudes from 65.8° to 66.0° N corresponding to orbits 6078 to 6094.

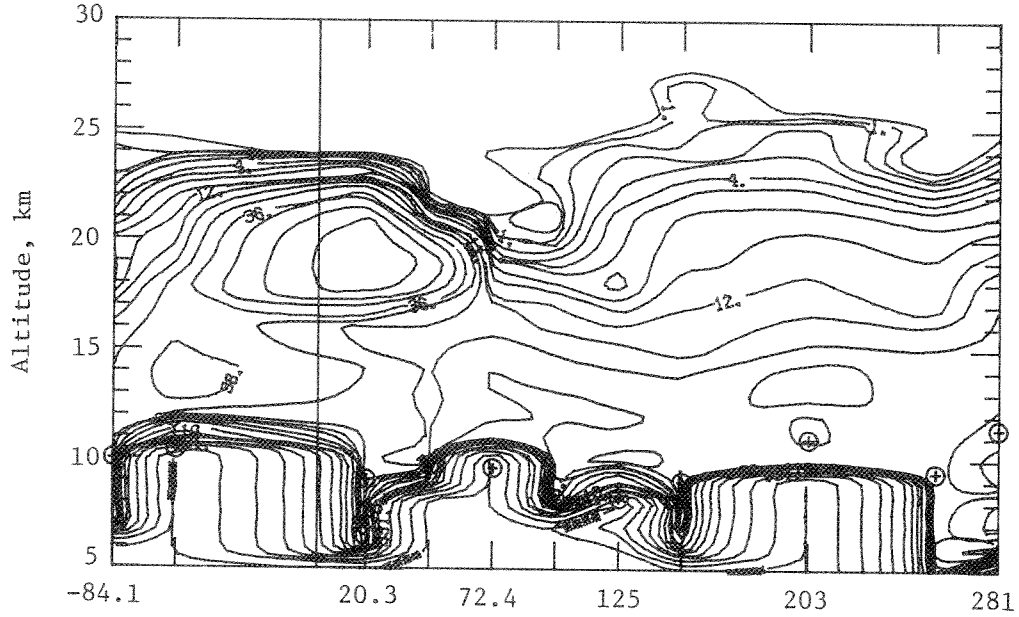


(a) Extinction isopleth.

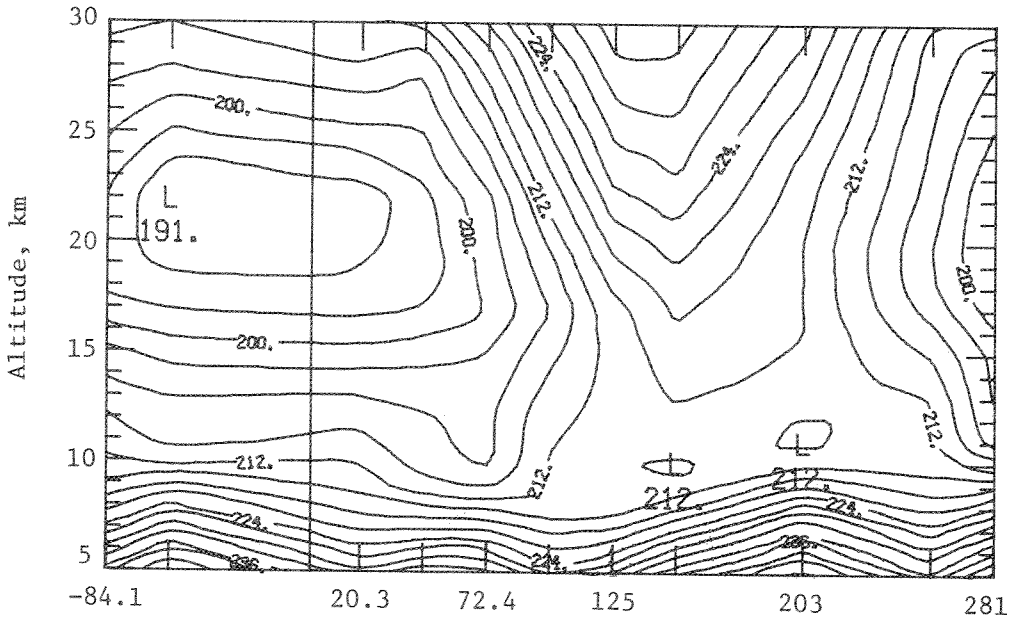


(b) Temperature contours.

Figure 23.- Arctic extinction isopleth and temperature contours for January 15.81 to 16.82, 1980, at latitudes from 67.1° to 67.3° N corresponding to orbits 6199 to 6213.

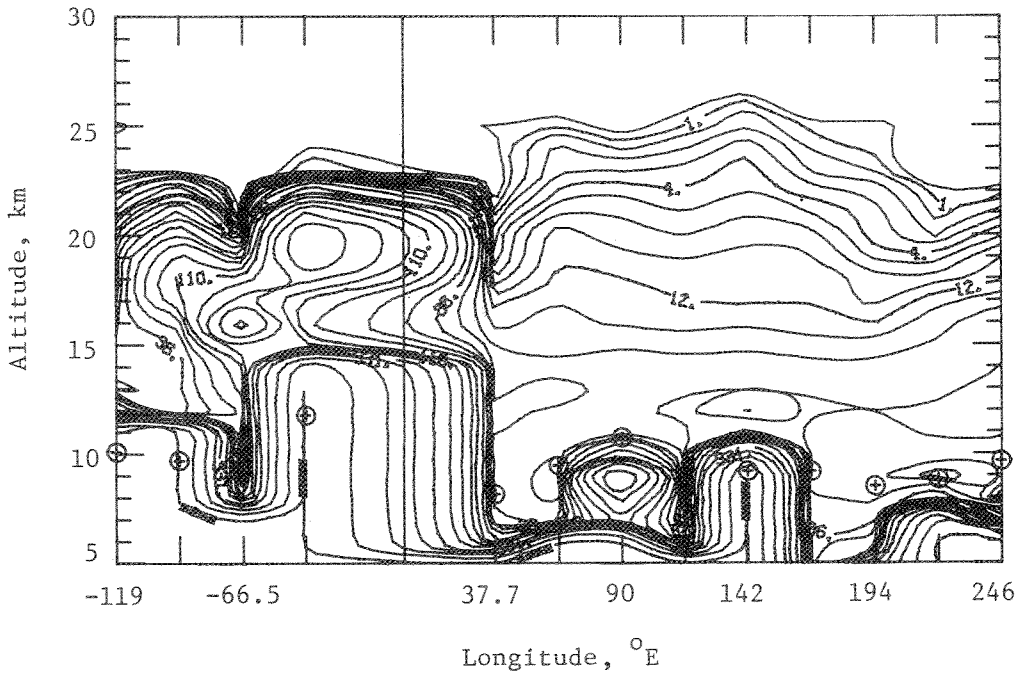


(a) Extinction isopleth.

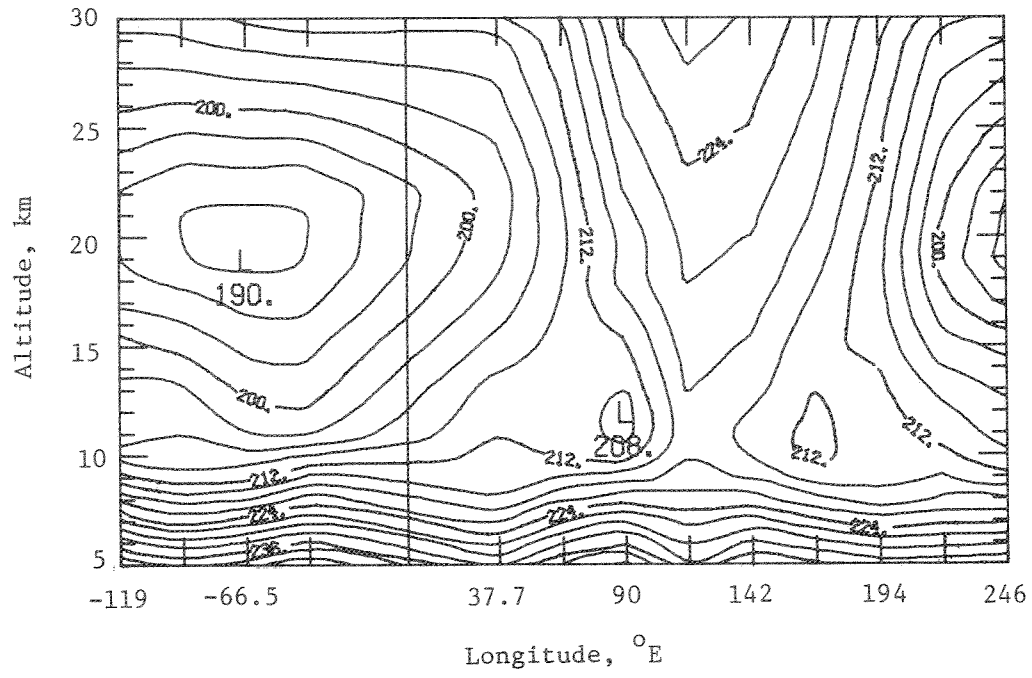


(b) Temperature contours.

Figure 24.- Arctic extinction isopleth and temperature contours for January 25.65 to 26.67, 1980, at latitudes from 69.1° to 69.4° N corresponding to orbits 6335 to 6349.

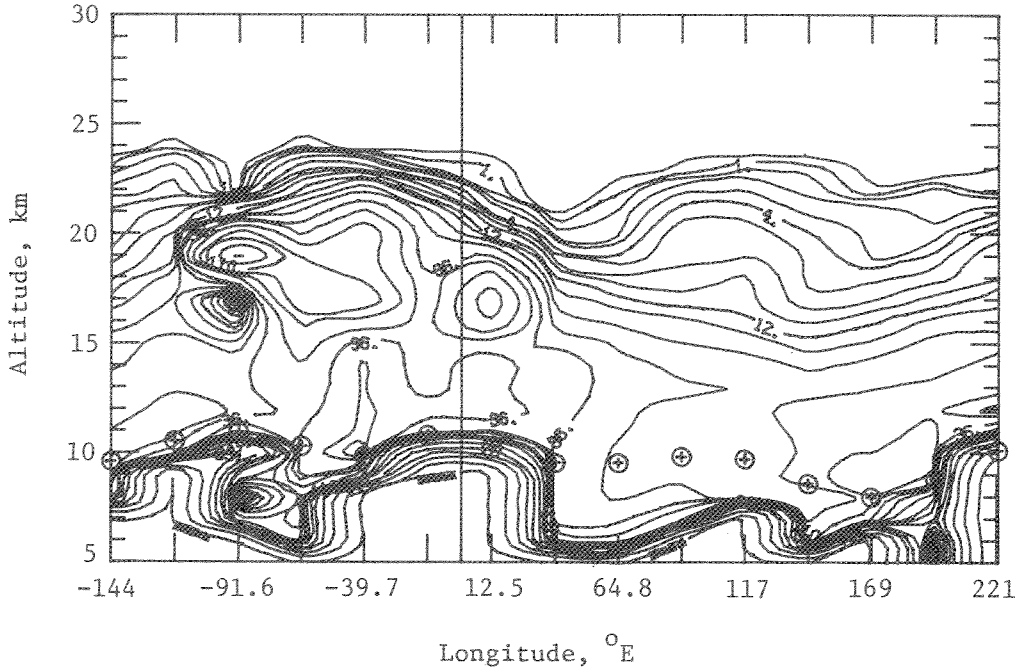


(a) Extinction isopleth.

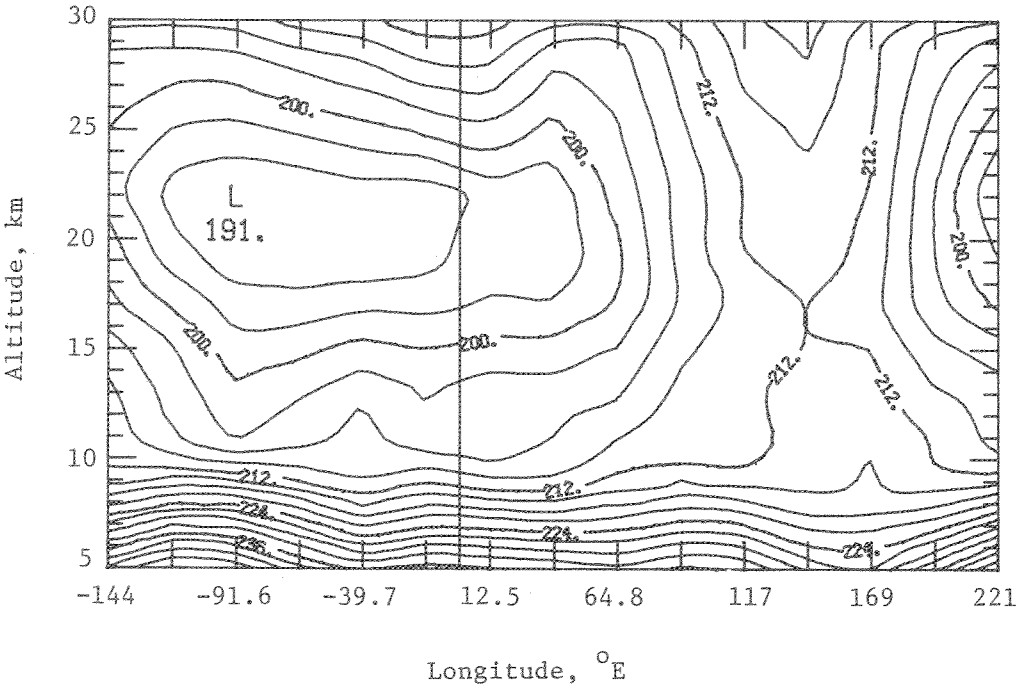


(b) Temperature contours.

Figure 25.- Arctic extinction isopleth and temperature contours for February 1.74 to 2.76, 1980, at latitudes from 70.9° to 71.2° N corresponding to orbits 6433 to 6447.

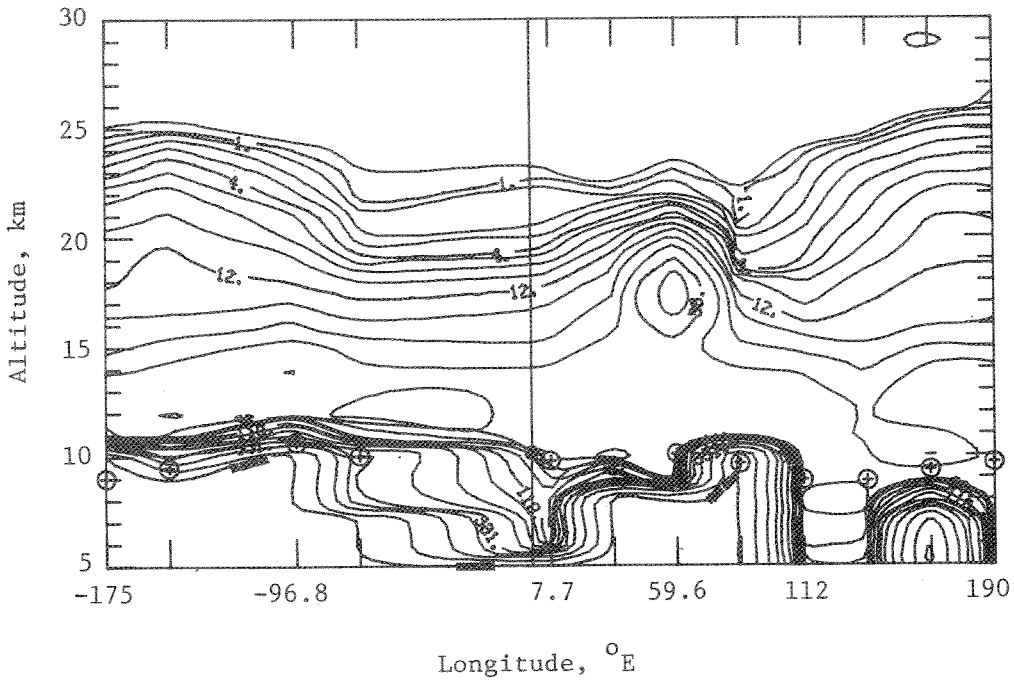


(a) Extinction isopleth.

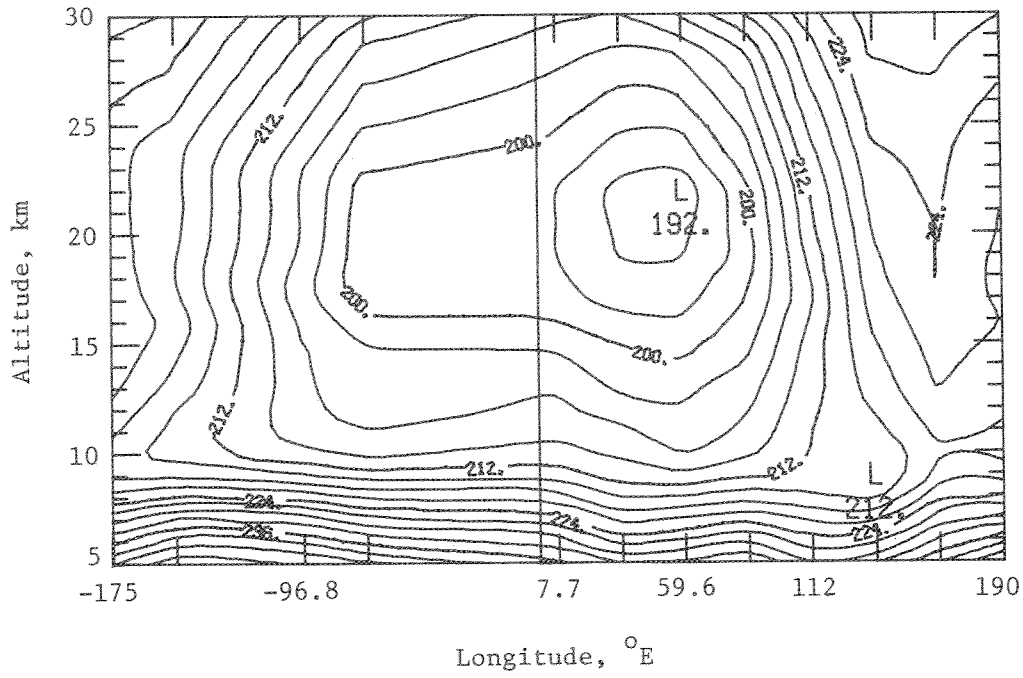


(b) Temperature contours.

Figure 26.- Arctic extinction isopleth and temperature contours for February 6.81 to 7.82, 1980, at latitudes from 72.3° to 72.6° N corresponding to orbits 6503 to 6517.

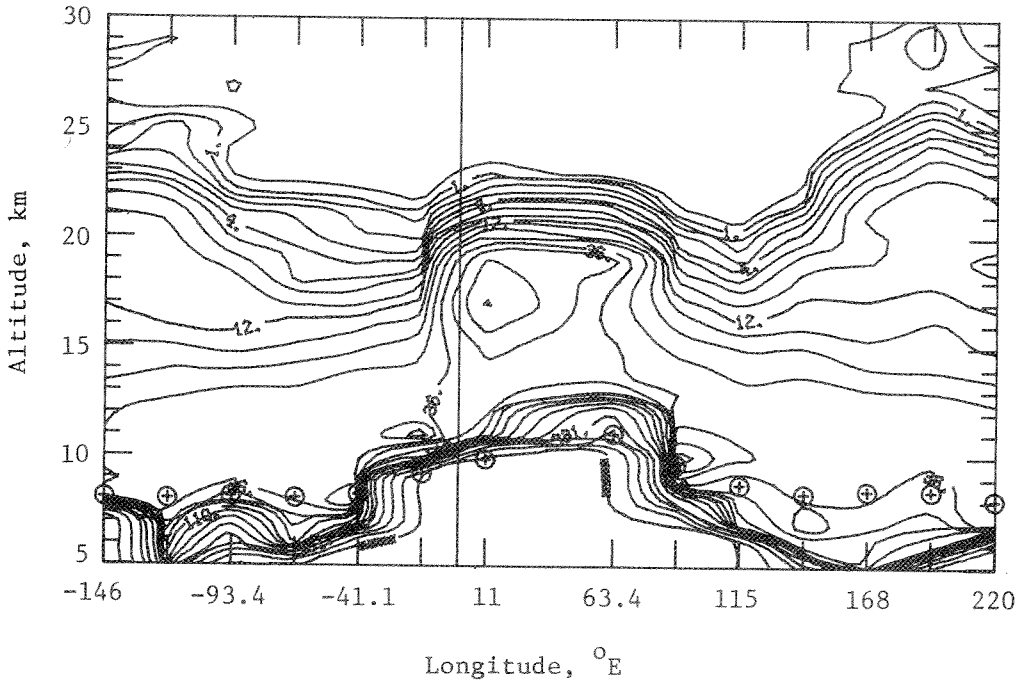


(a) Extinction isopleth.

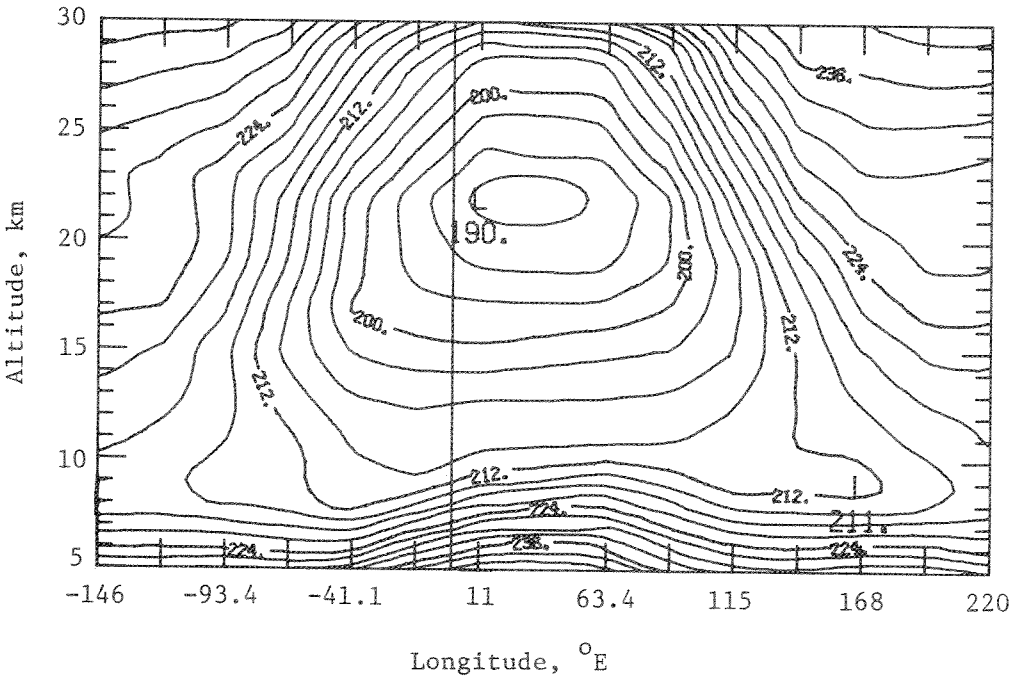


(b) Temperature contours.

Figure 27.- Arctic extinction isopleth and temperature contours for February 12.89 to 13.90, 1980, at latitudes from 74.1° to 74.4° N corresponding to orbits 6587 to 6601.

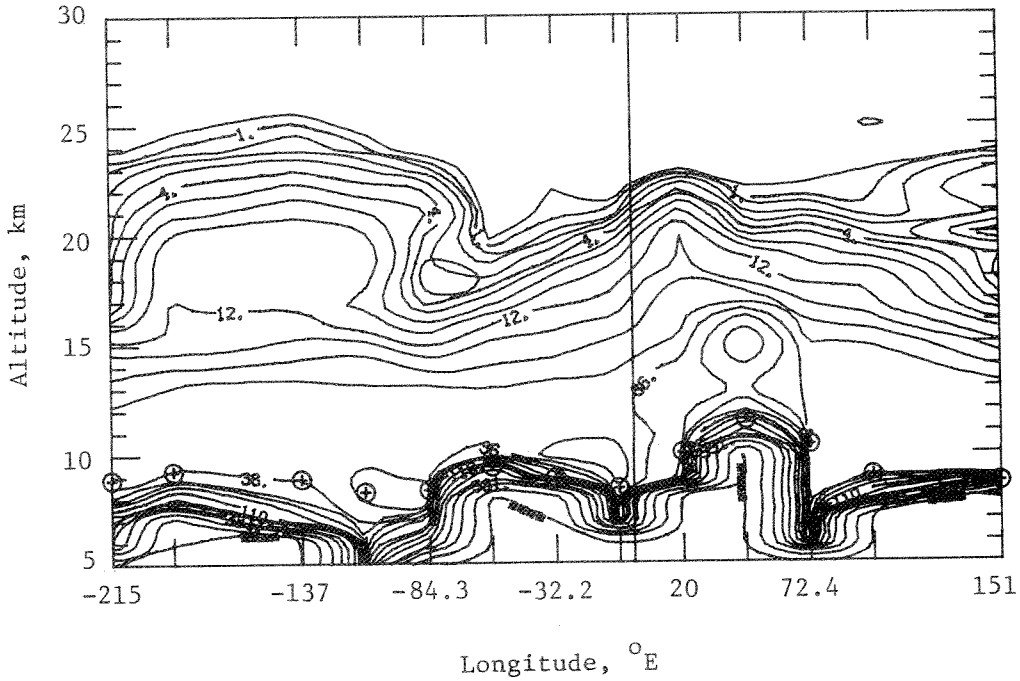


(a) Extinction isopleth.

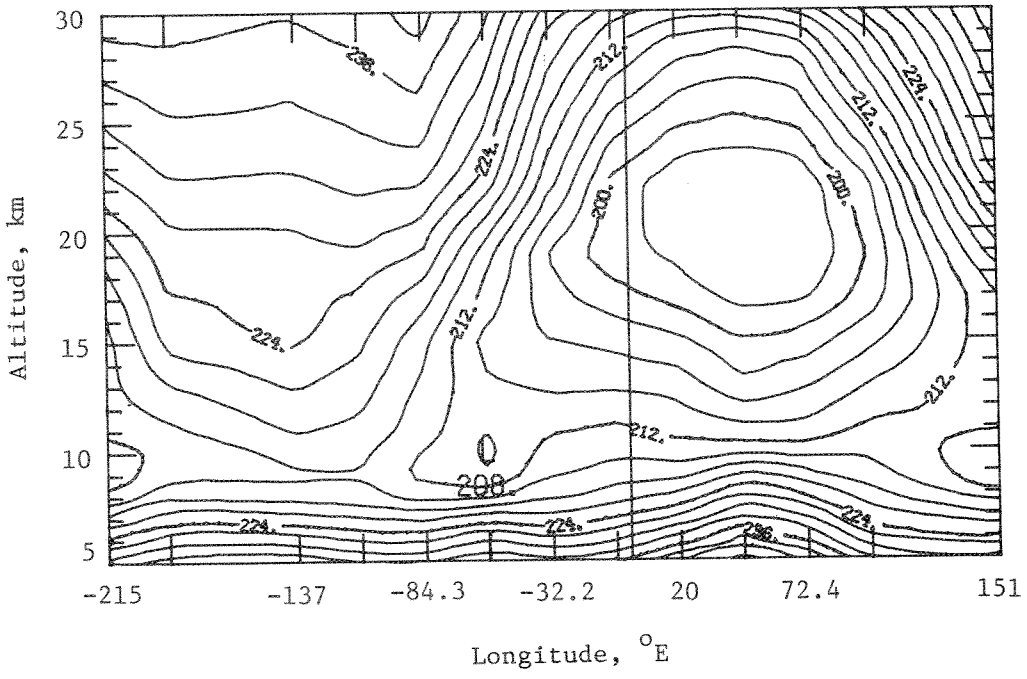


(b) Temperature contours.

Figure 28.- Arctic extinction isopleth and temperature contours for February 21.79 to 22.80, 1980, at latitudes from 76.9° to 77.2° N corresponding to orbits 6710 to 6724.

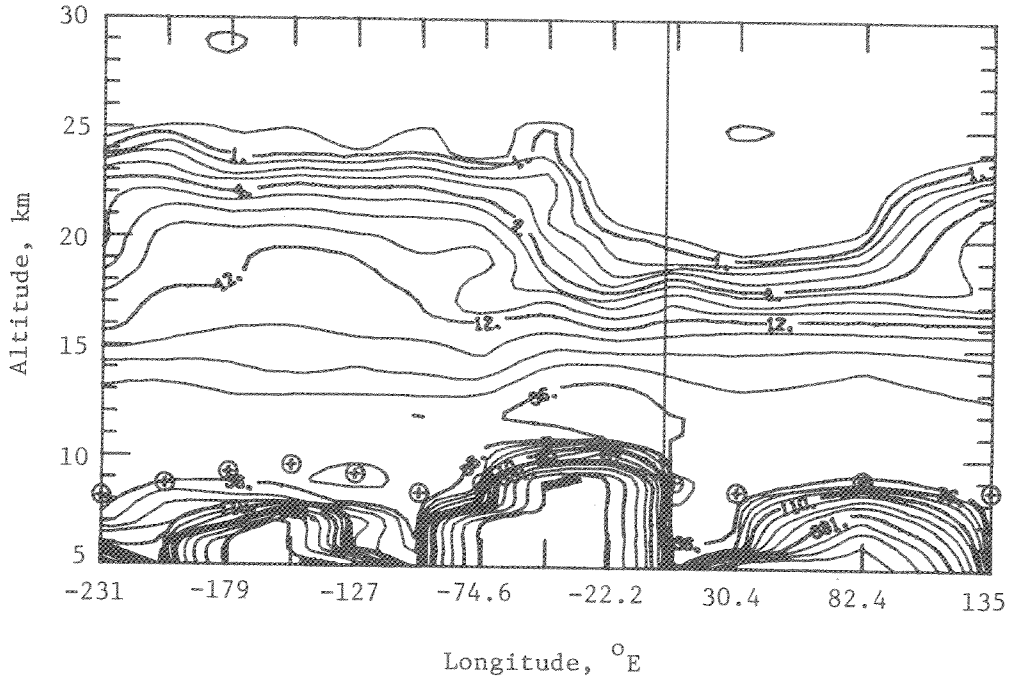


(a) Extinction isopleth.

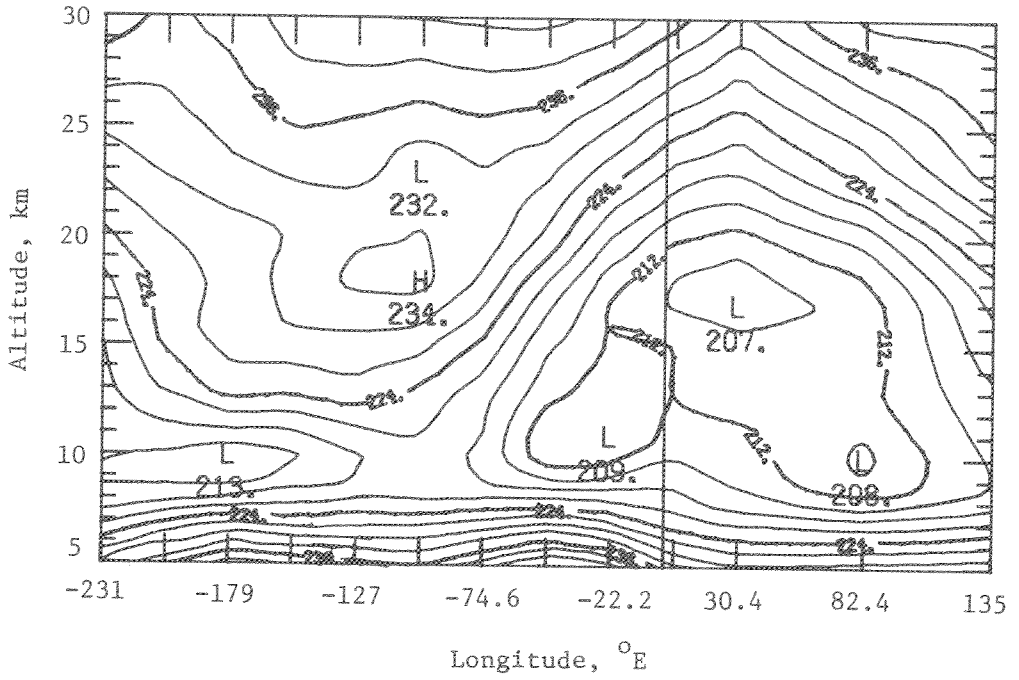


(b) Temperature contours.

Figure 29.- Arctic extinction isopleth and temperature contours for February 24.98 to 25.99, 1980, at latitudes from 77.8° to 78.2° N corresponding to orbits 6754 to 6768.

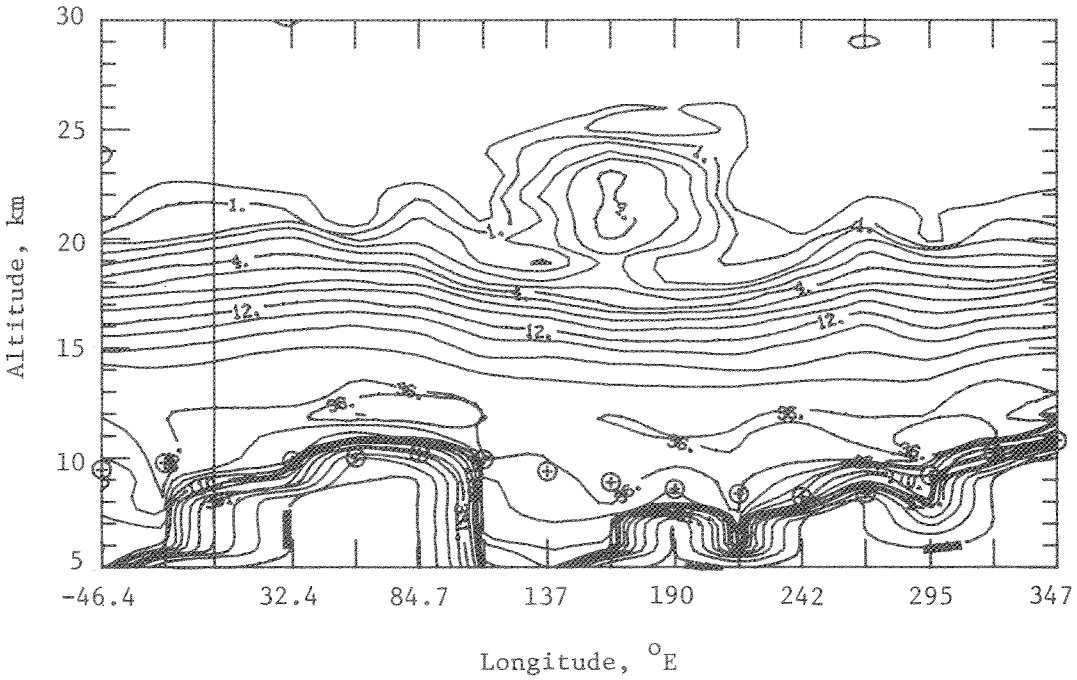


(a) Extinction isopleth.

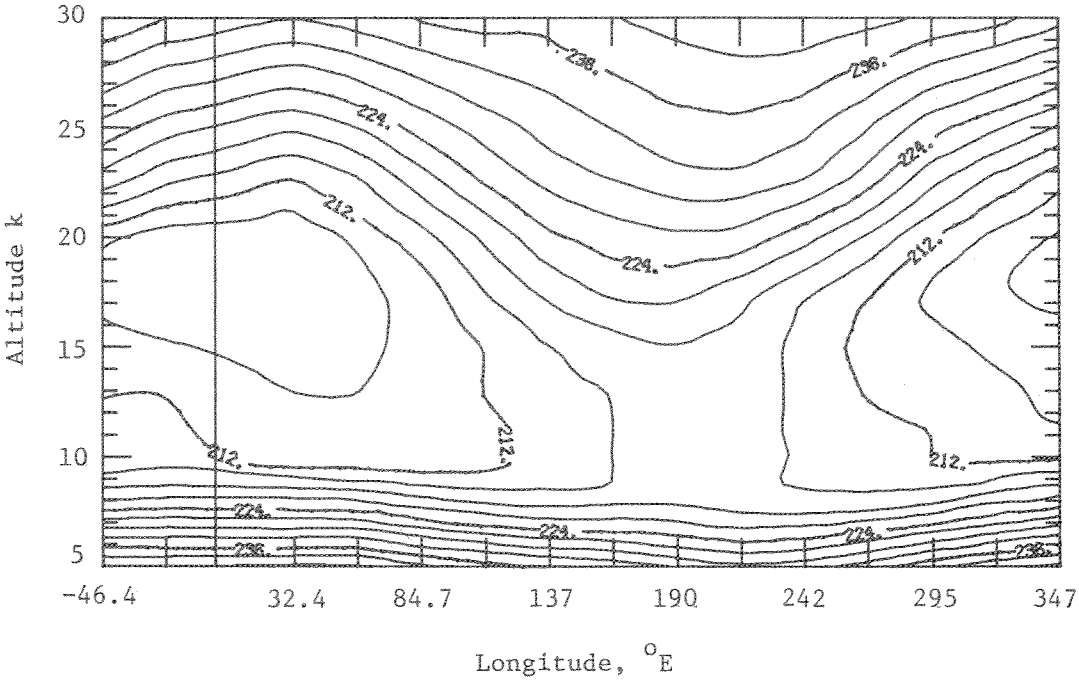


(b) Temperature contours.

Figure 30.- Arctic extinction isopleth and temperature contours for March 3.00 to 4.01, 1980, at latitudes from 79.9° to 80.2° N corresponding to orbits 6851 to 6865.

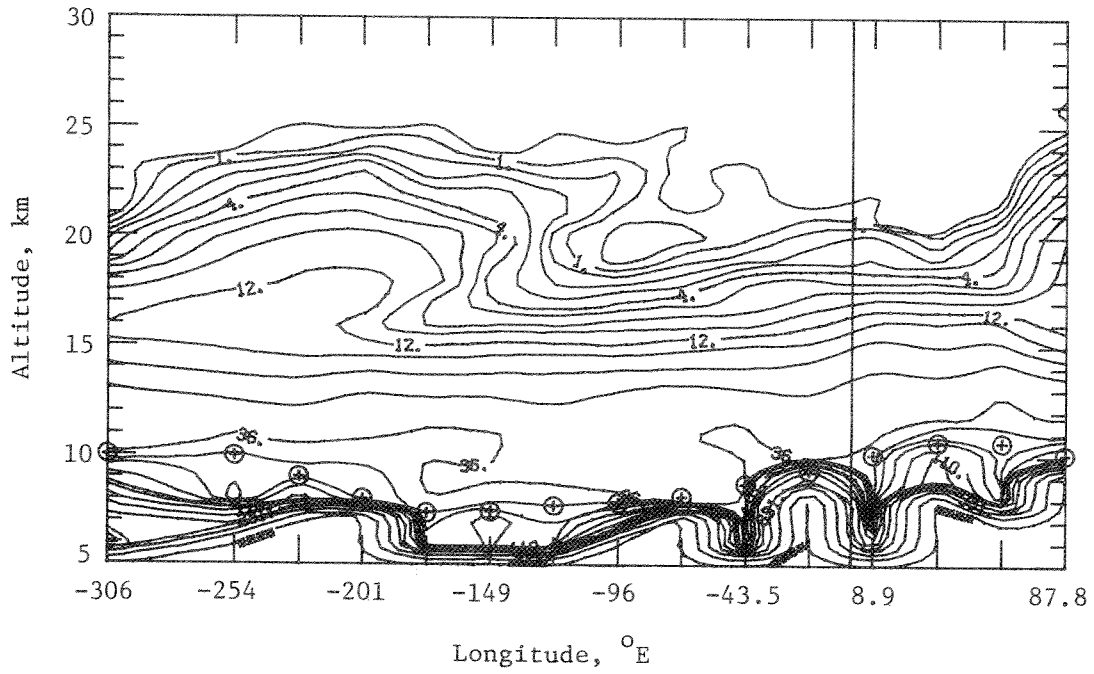


(a) Extinction isopleth.

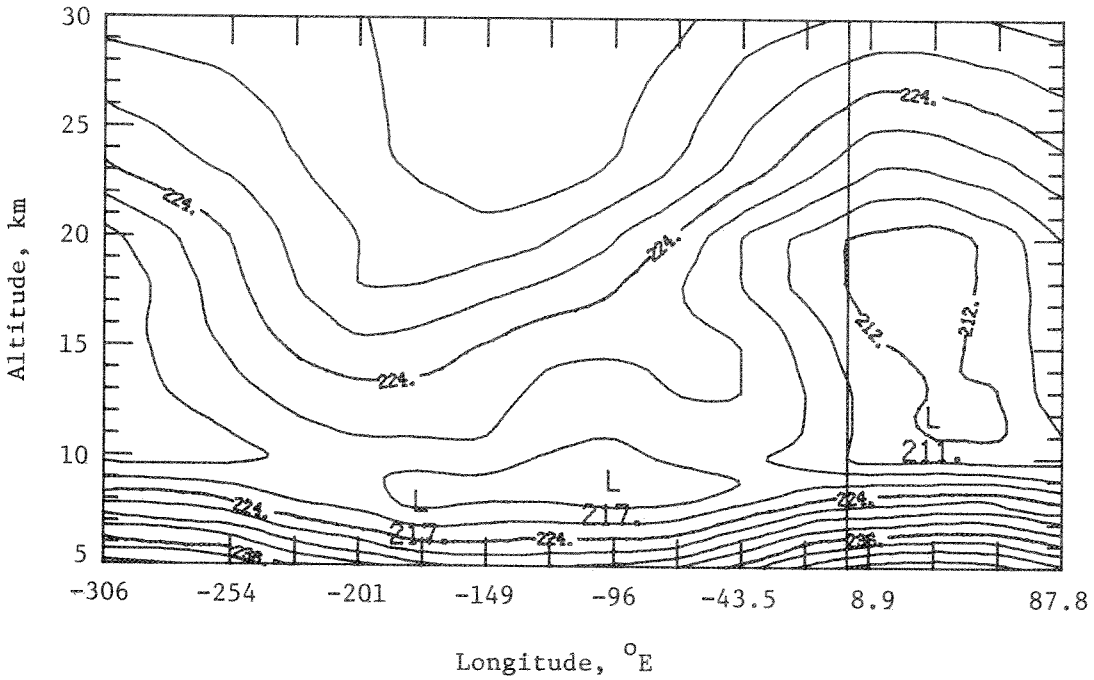


(b) Temperature contours.

Figure 31.- Arctic extinction isopleth and temperature contours for March 13.34 to 14.43, 1980, at latitudes from 82.2° to 82.4° N corresponding to orbits 6994 to 7009.

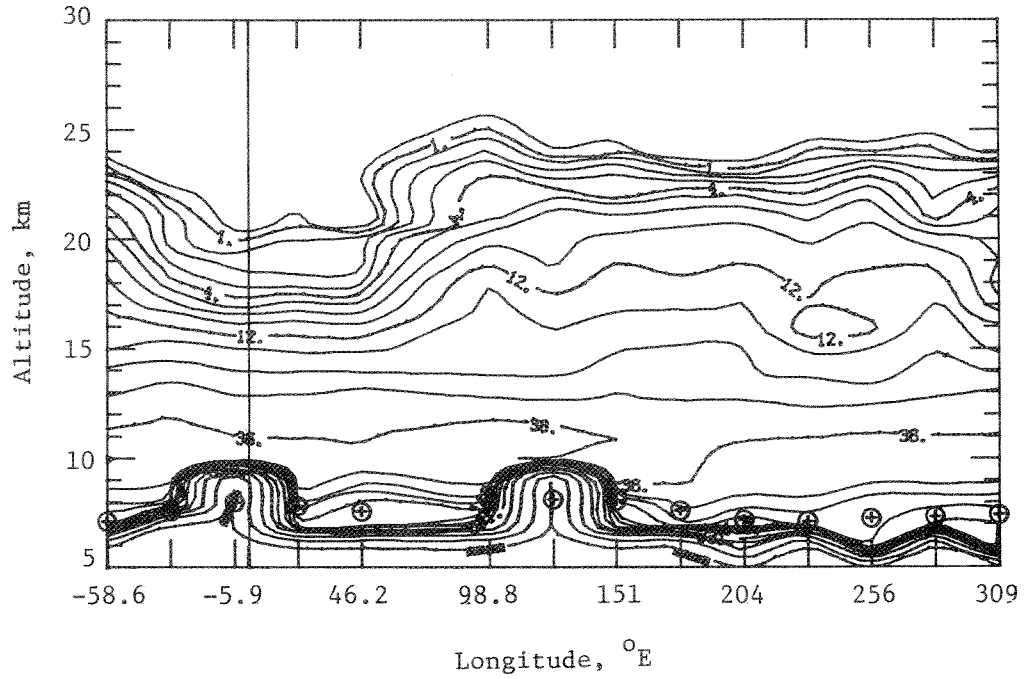


(a) Extinction isopleth.

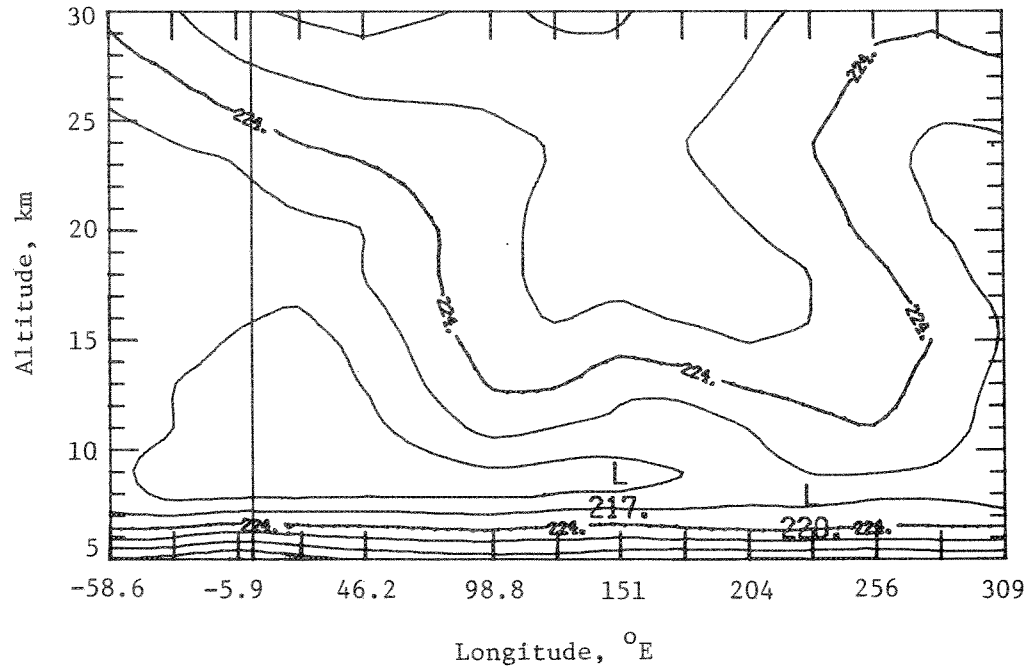


(b) Temperature contours.

Figure 32.- Arctic extinction isopleth and temperature contours for March 17.04 to 18.12, 1980, at latitudes from 82.6° to 82.8° N corresponding to orbits 7045 to 7060.

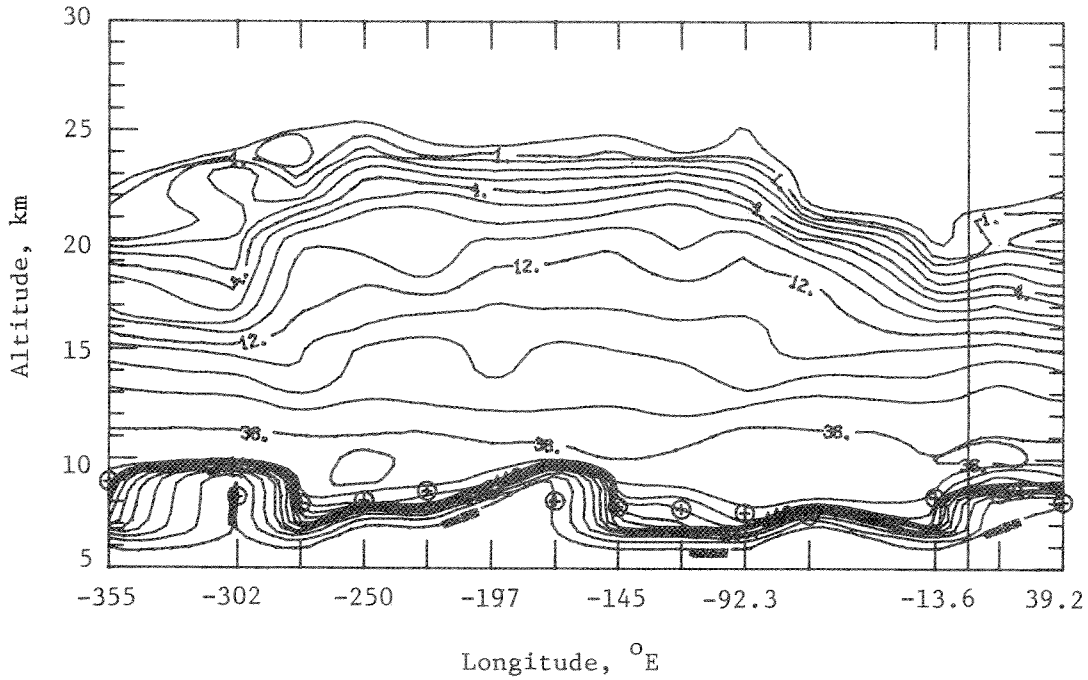


(a) Extinction isopleth.

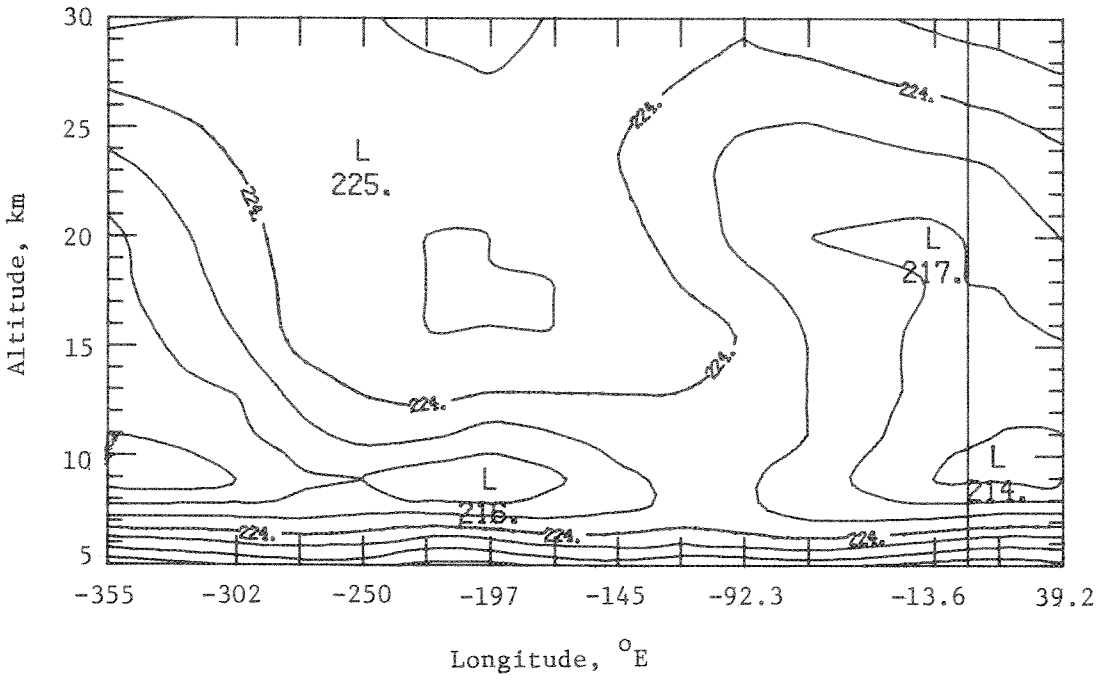


(b) Temperature contours.

Figure 33.- Arctic extinction isopleth and temperature contours for March 28.33 to 29.34, 1980, at latitudes from 82.3° to 82.1° N corresponding to orbits 7201 to 7215.

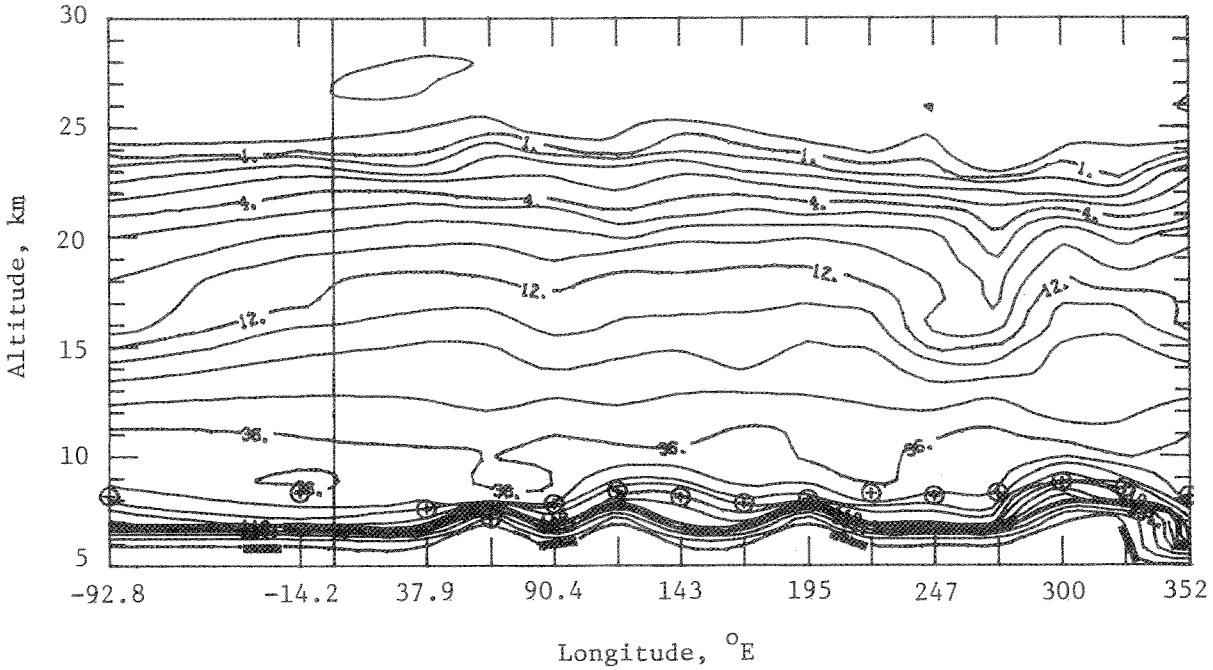


(a) Extinction isopleth.

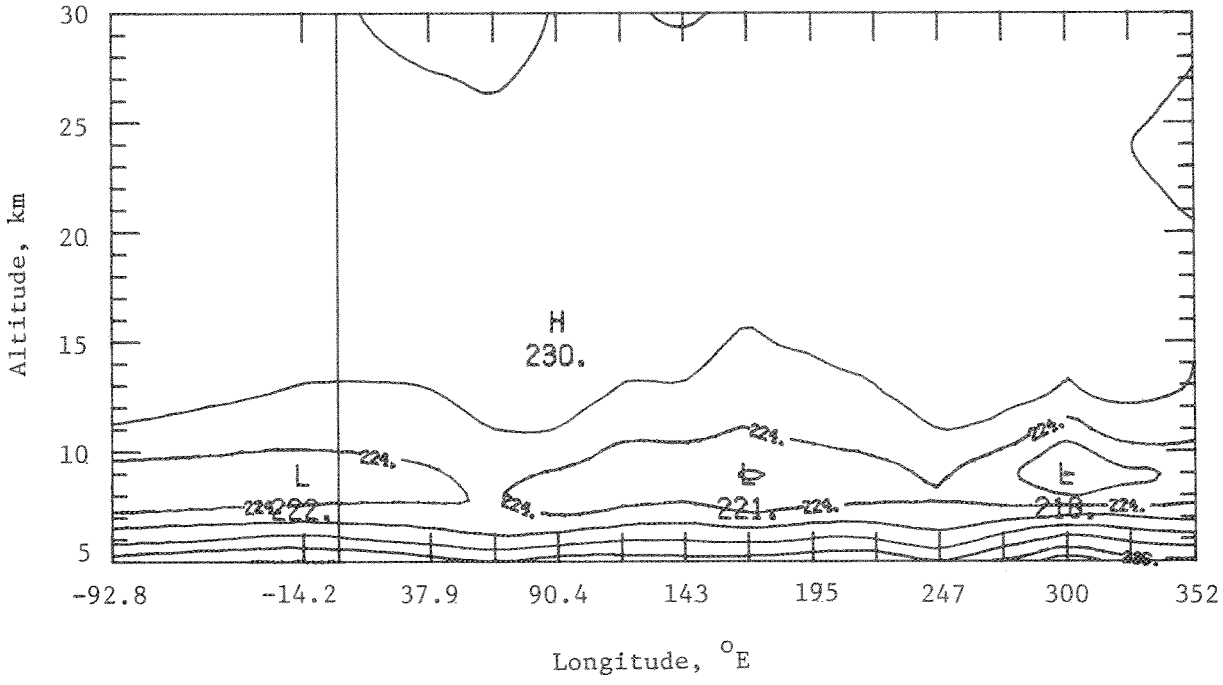


(b) Temperature contours.

Figure 34.- Arctic extinction isopleth and temperature contours for March 30.06 to 31.15, 1980, at latitudes from 82.0° to 81.8° N corresponding to orbits 7225 to 7240.

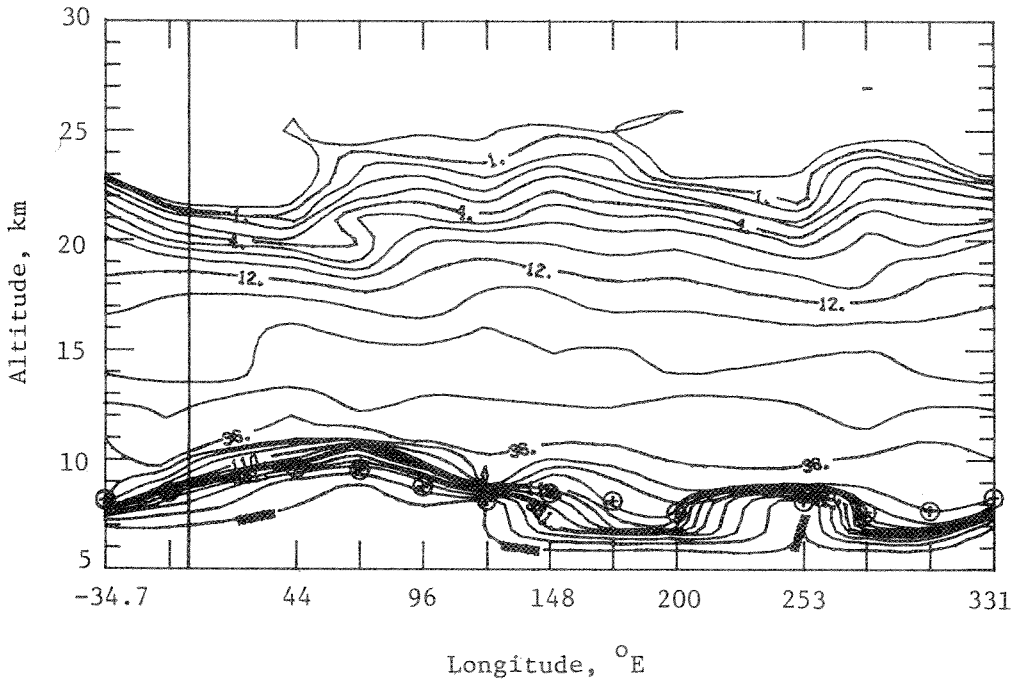


(a) Extinction isopleth.

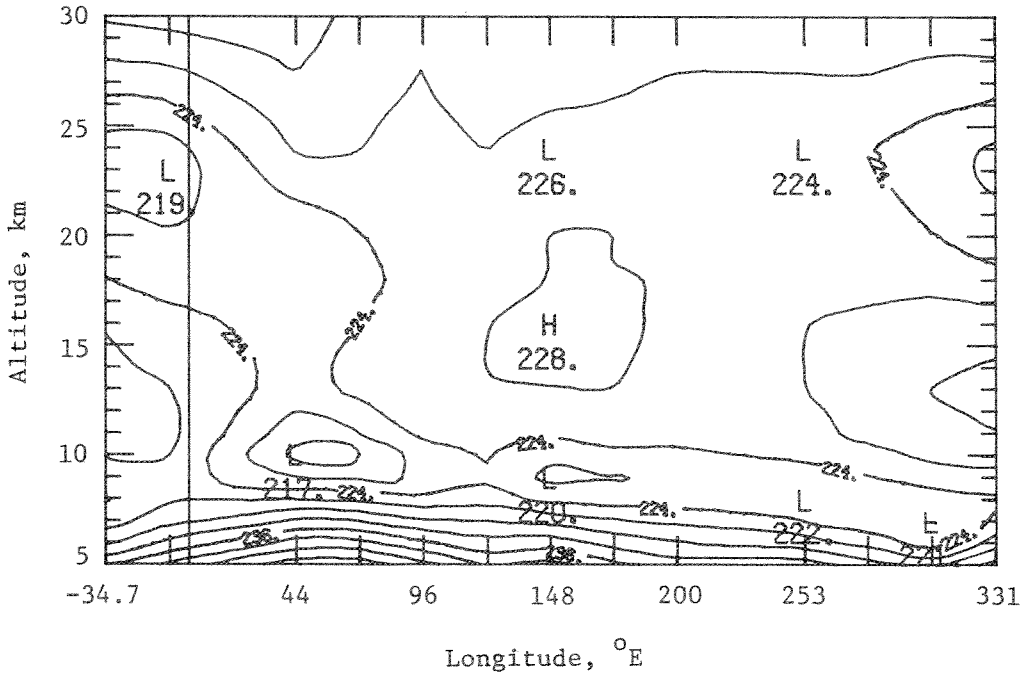


(b) Temperature contours.

Figure 35.- Arctic extinction isopleth and temperature contours for April 10.14 to 11.37, 1980, at latitudes from 79.4° to 79.0° N corresponding to orbits 7378 to 7395.

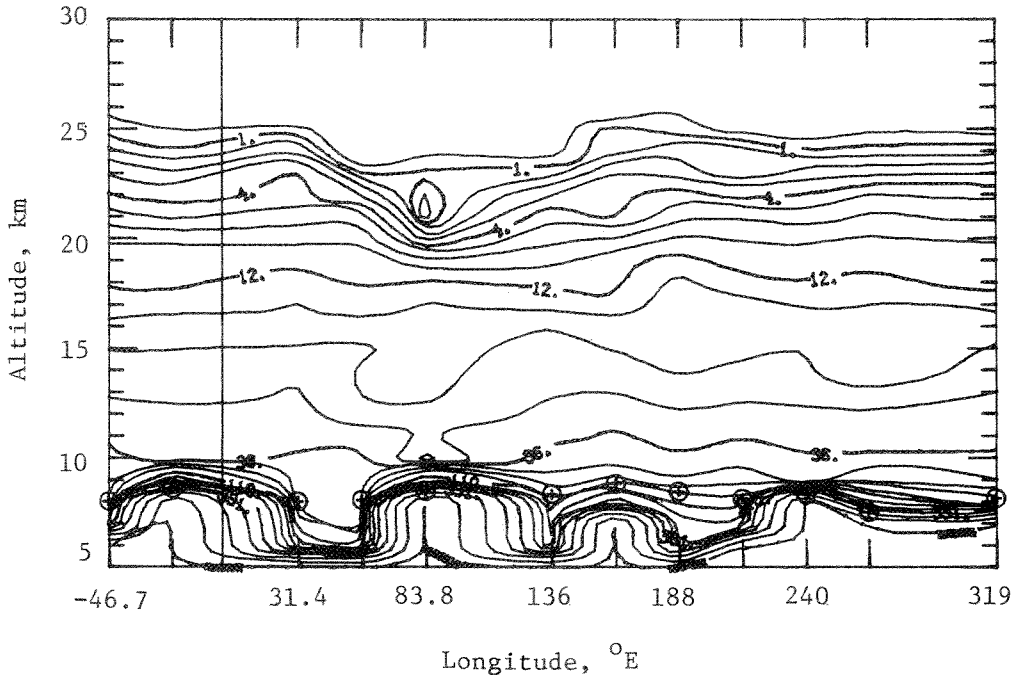


(a) Extinction isopleth.

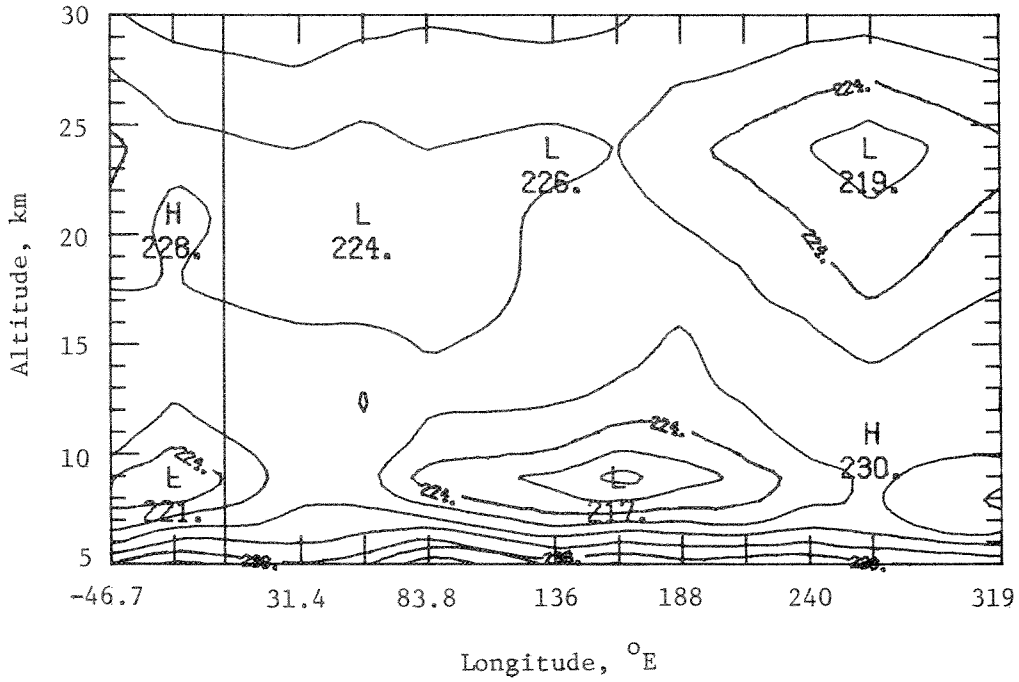


(b) Temperature contours.

Figure 36.- Arctic extinction isopleth and temperature contours for April 18.17 to 19.18, 1980, at latitudes from 77.1° to 76.8° N corresponding to orbits 7489 to 7503.

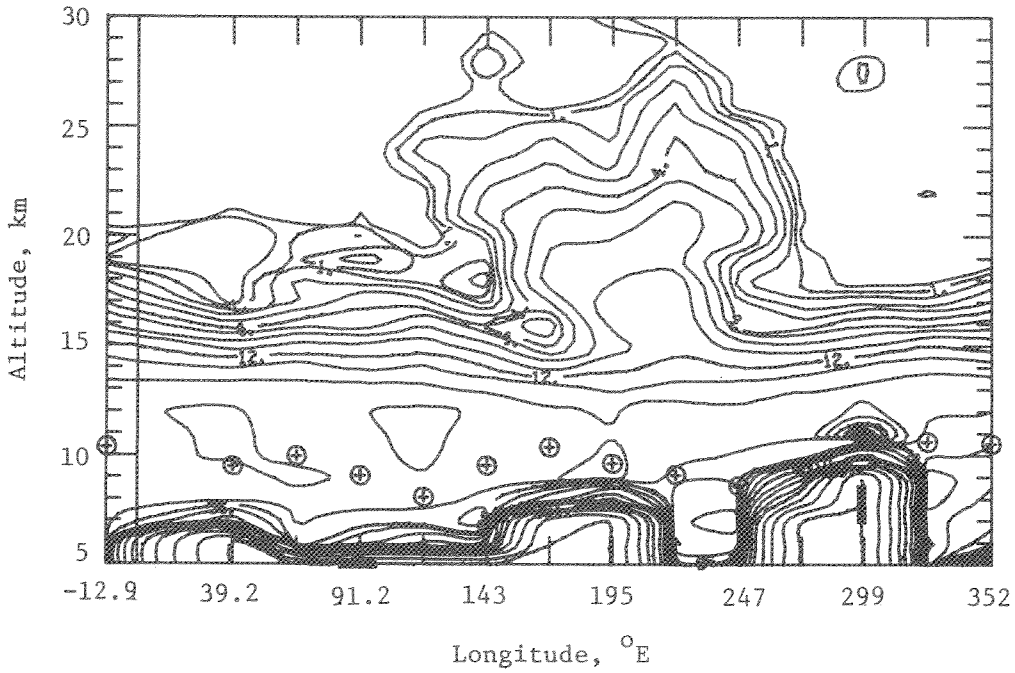


(a) Extinction isopleth.

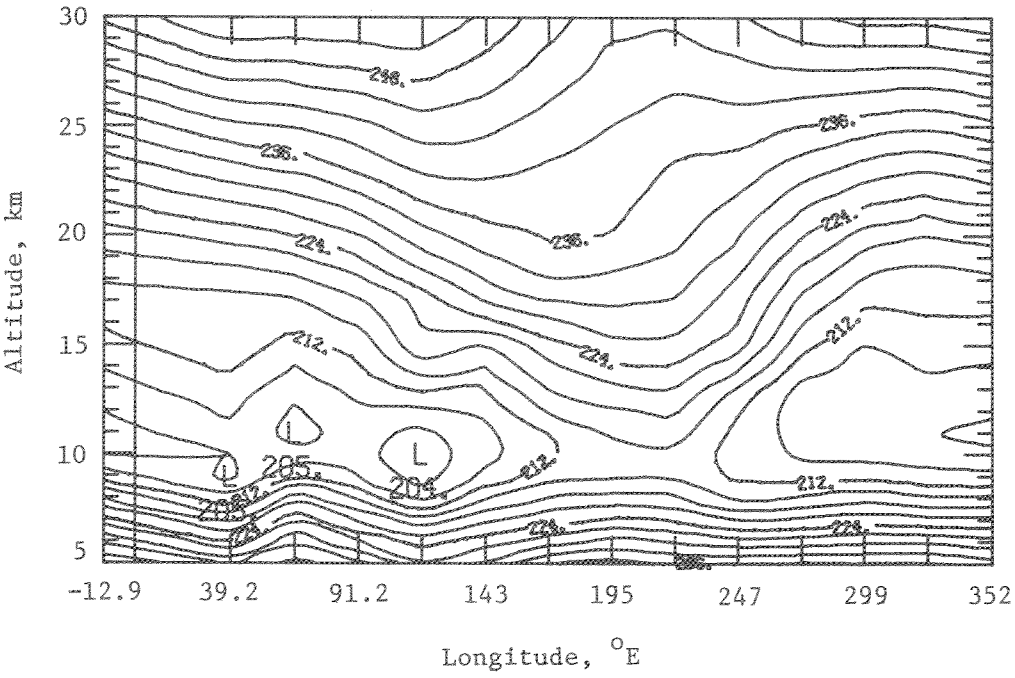


(b) Temperature contours.

Figure 37.- Arctic extinction isopleth and temperature contours for April 25.19 to 26.20, 1980, at latitudes from 75.1° to 74.8° N corresponding to orbits 7586 to 7600.

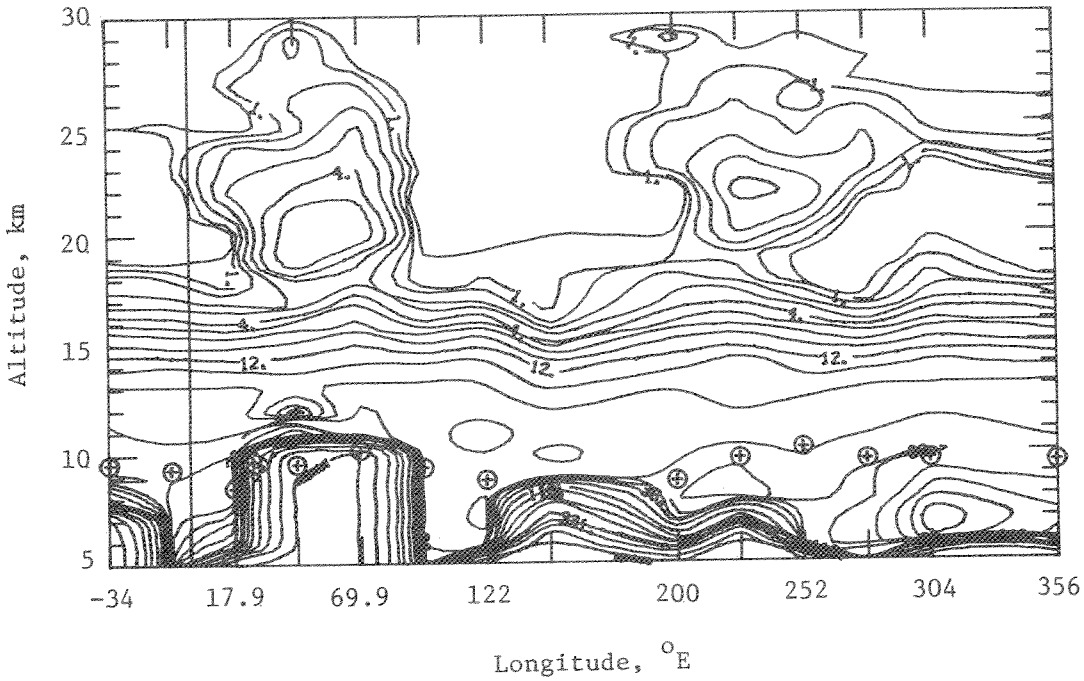


(a) Extinction isopleth.

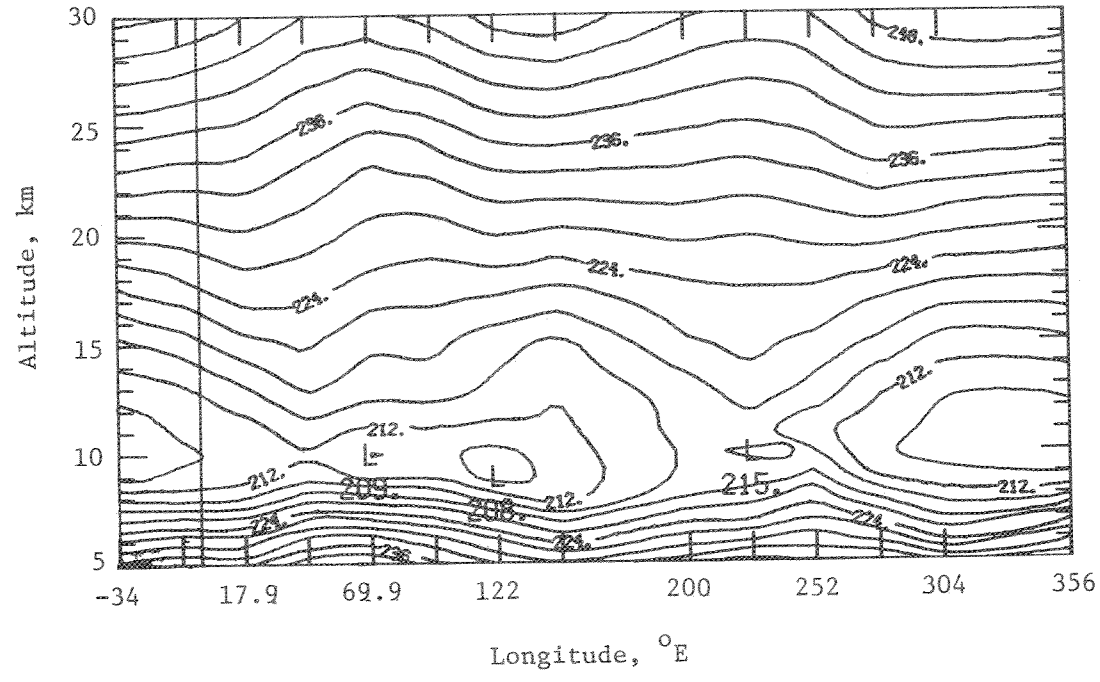


(b) Temperature contours.

Figure 38.- Antarctic extinction isopleth and temperature contours for November 2.95 to 3.96, 1979, at latitudes from 73.9° to 73.6° S corresponding to orbits 5179 to 5193.

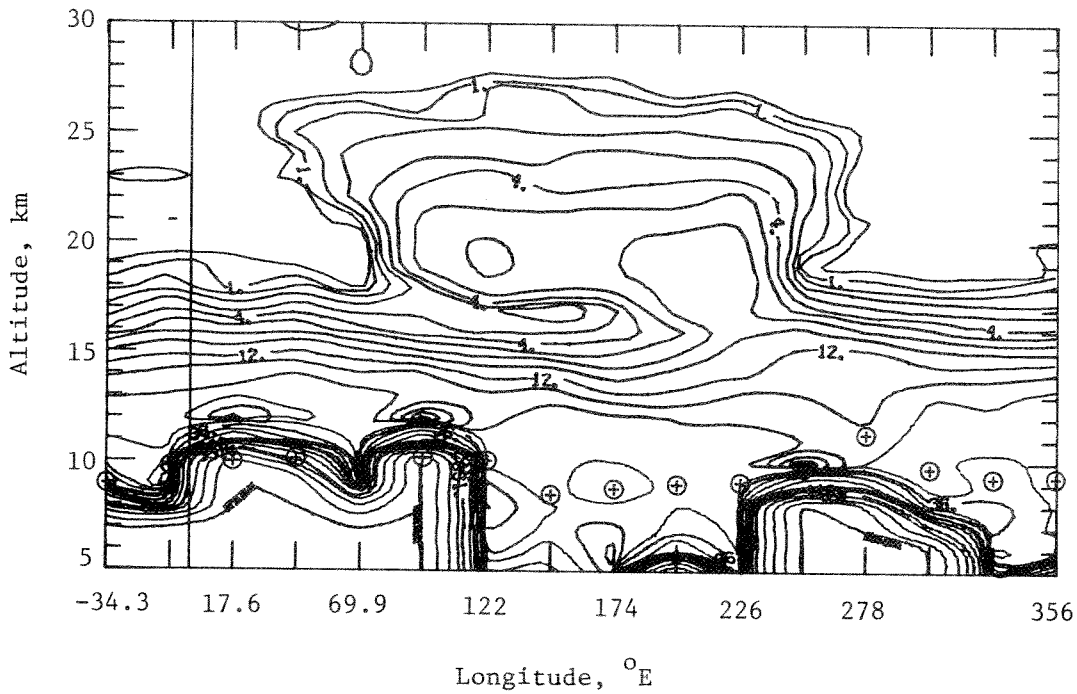


(a) Extinction isopleth.

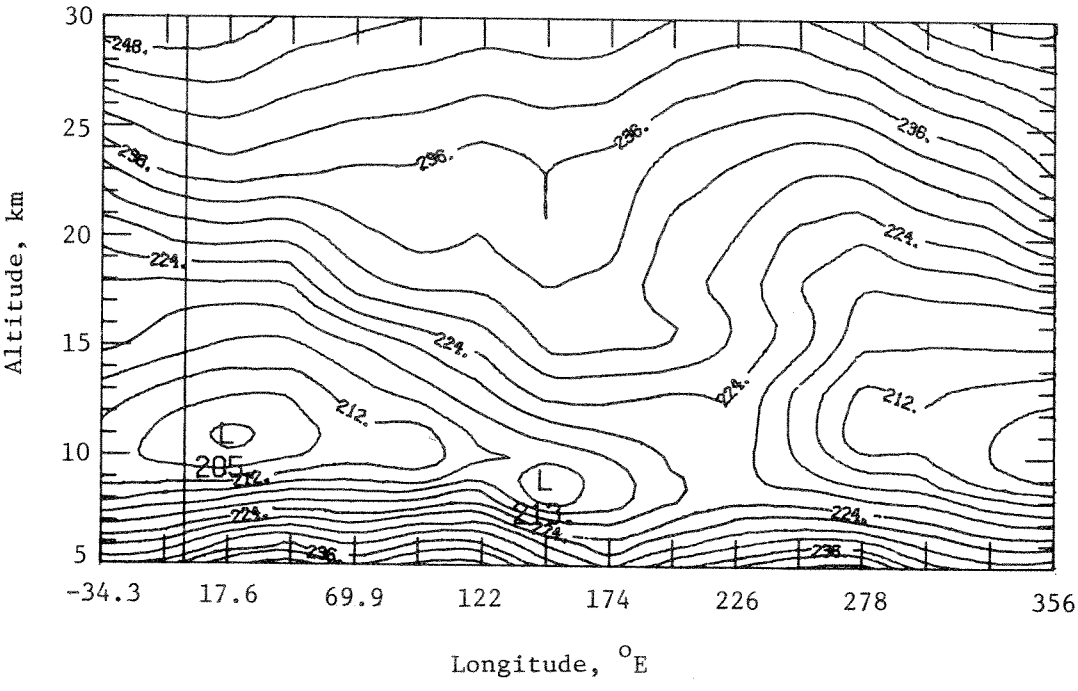


(b) Temperature contours.

Figure 39.- Antarctic extinction isopleth and temperature contours for November 7.94 to 9.03, 1979, at latitudes from 72.5° to 72.2° S corresponding to orbits 5248 to 5263.

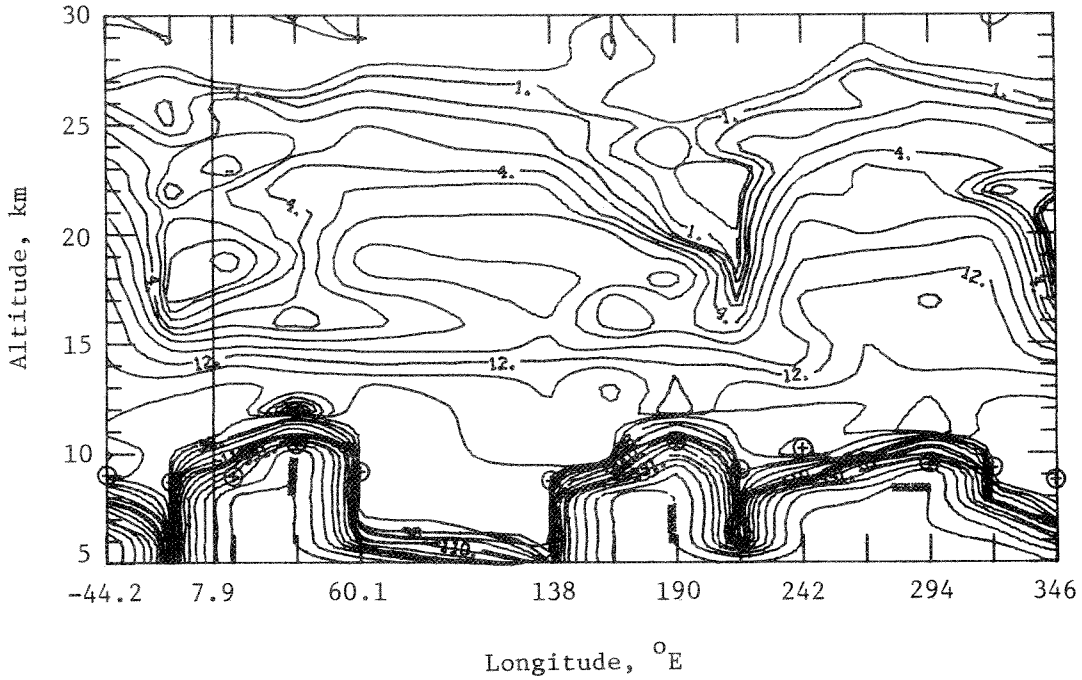


(a) Extinction isopleth.

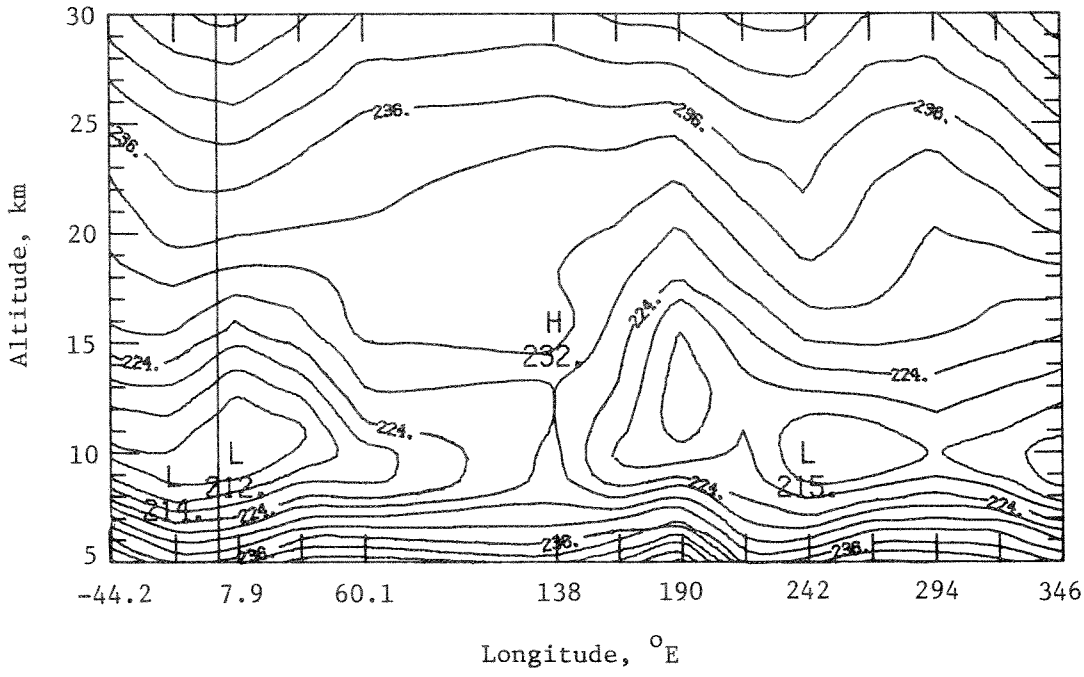


(b) Temperature contours.

Figure 40.- Antarctic extinction isopleth and temperature contours for November 13.95 to 15.03, 1979, at latitudes from 71.0° to 70.7° S corresponding to orbits 5331 to 5346.

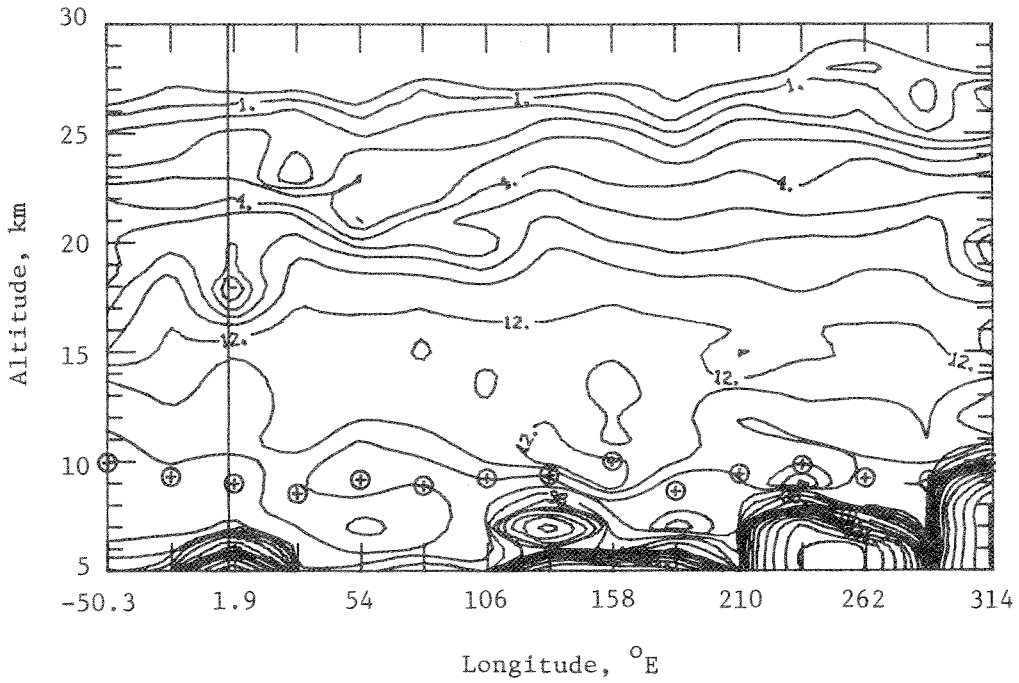


(a) Extinction isopleth.

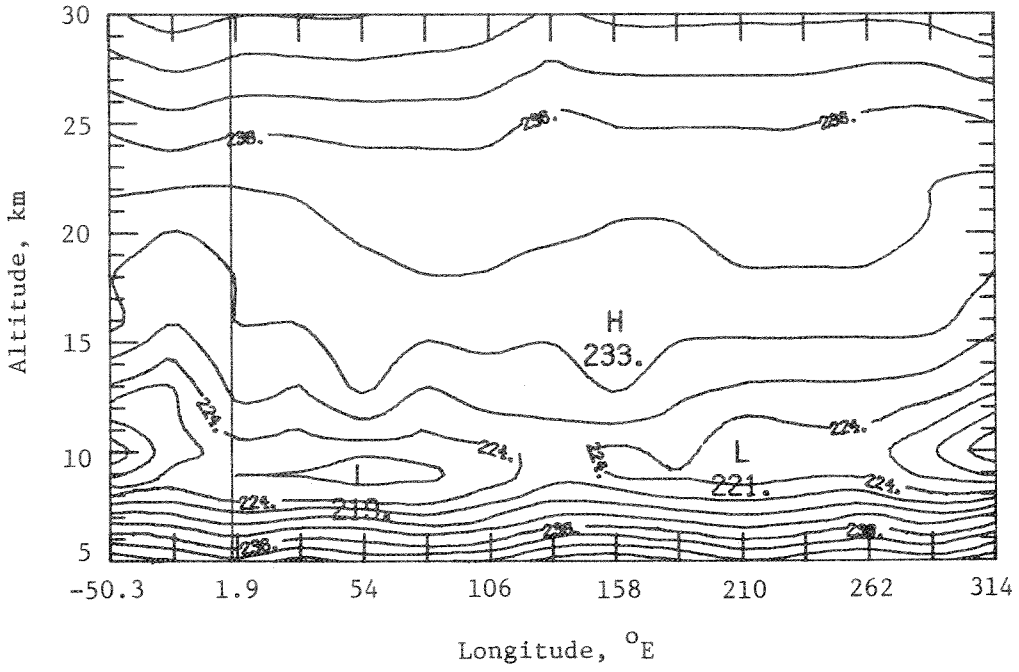


(b) Temperature contours.

Figure 41.- Antarctic extinction isopleth and temperature contours for November 21.98 to 23.07, 1979, at latitudes from 69.1° to 68.8° S corresponding to orbits 5442 to 5457.

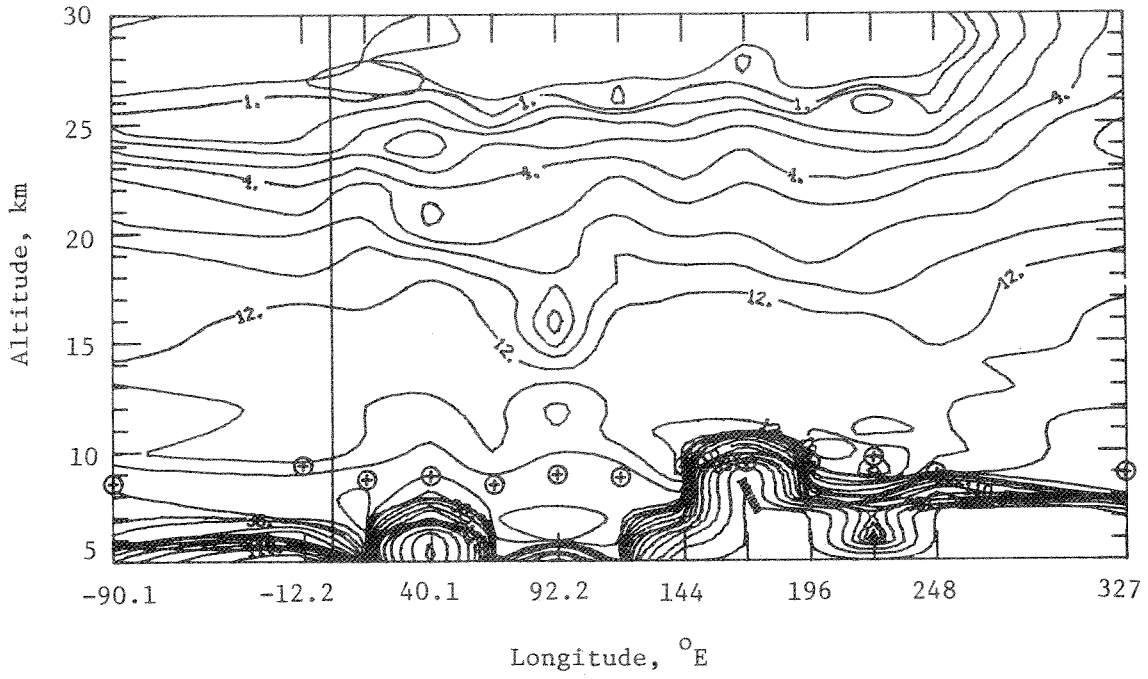


(a) Extinction isopleth.

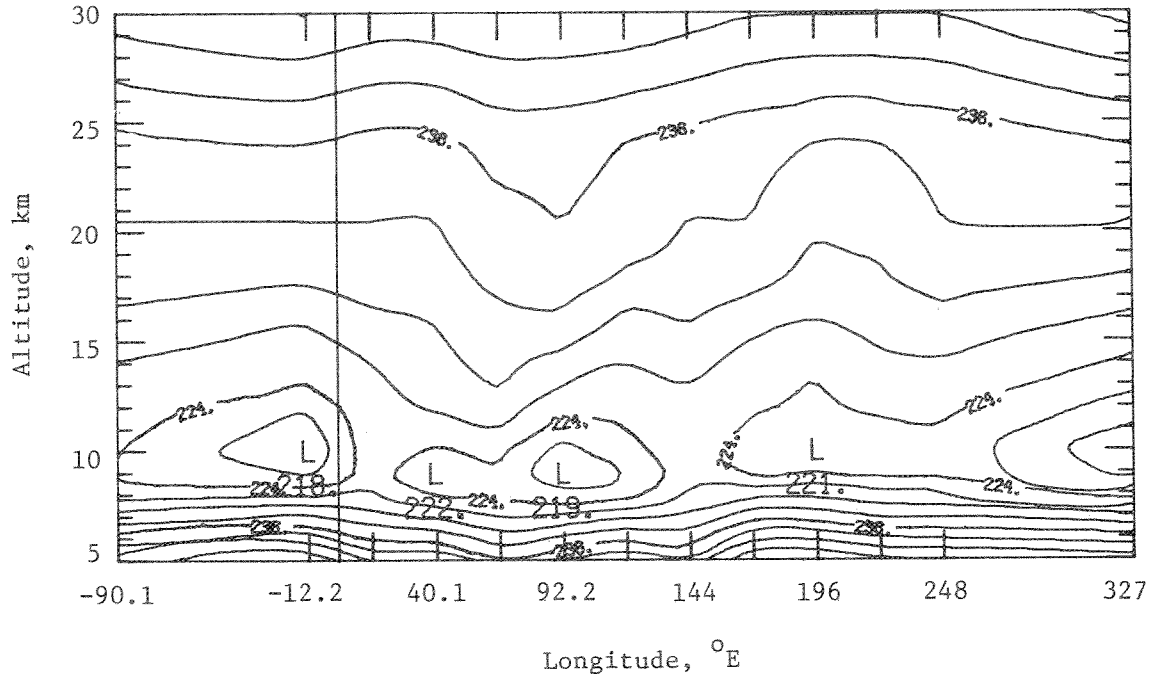


(b) Temperature contours.

Figure 42.- Antarctic extinction isopleth and temperature contours for November 29.07 to 30.09, 1979, at latitudes from 67.7° to 67.5° S corresponding to orbits 5540 to 5554.

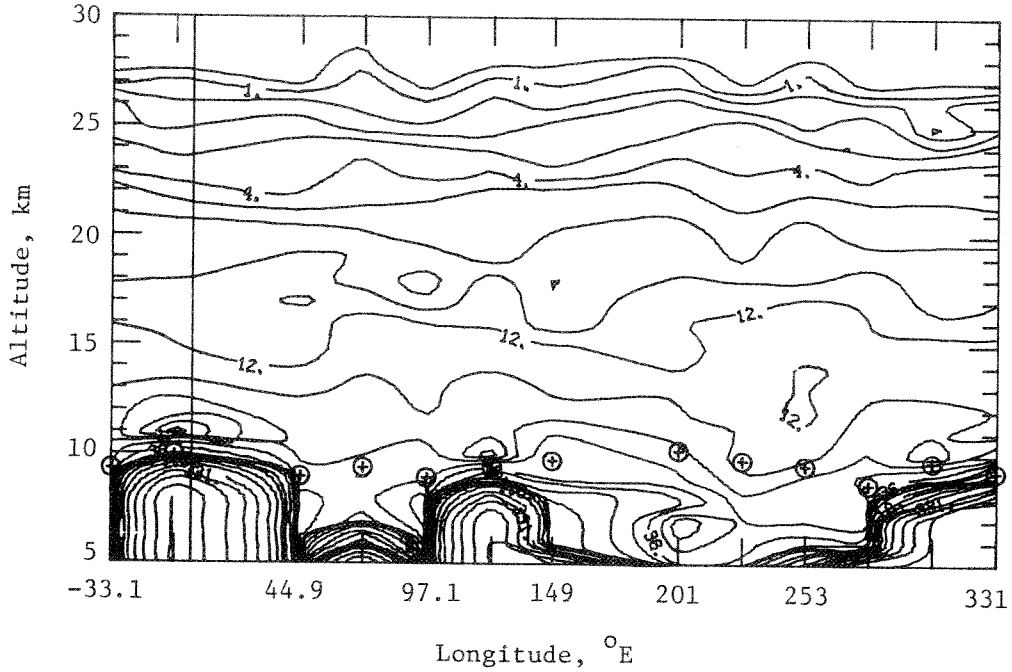


(a) Extinction isopleth.

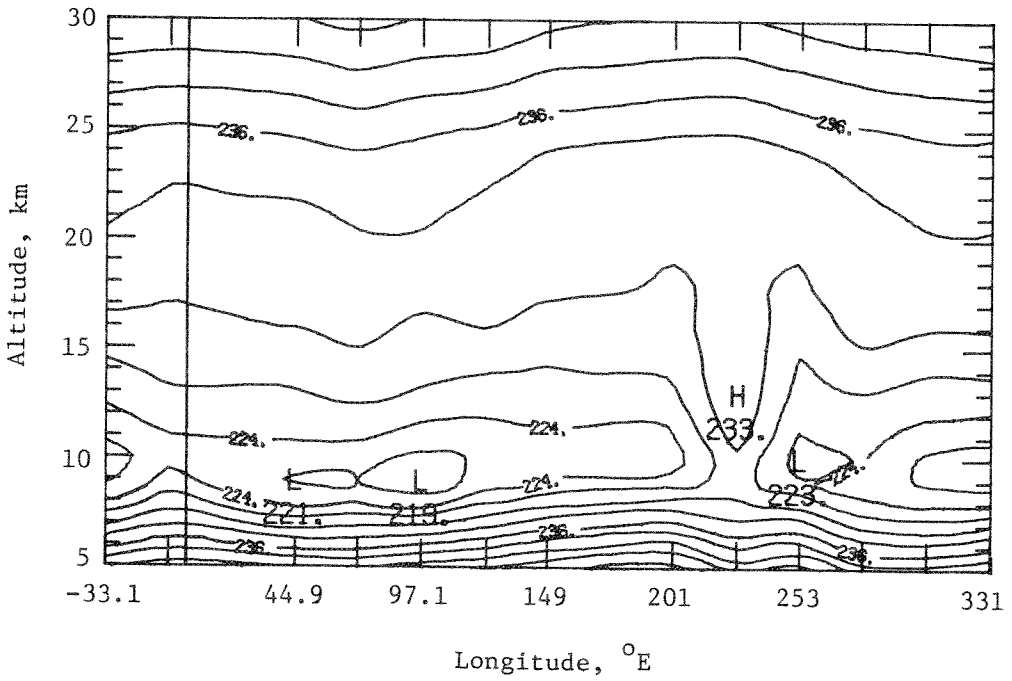


(b) Temperature contours.

Figure 43.- Antarctic extinction isopleth and temperature contours for December 2.04 to 3.20, 1979, at latitudes from 67.2° to 67.0° S corresponding to orbits 5581 to 5597.

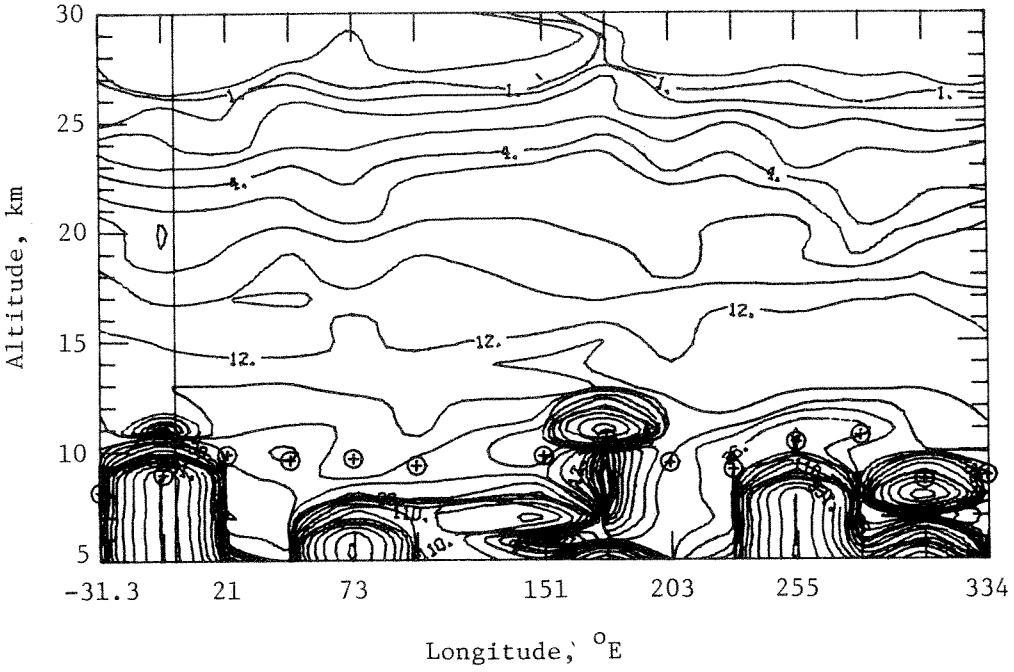


(a) Extinction isopleth.

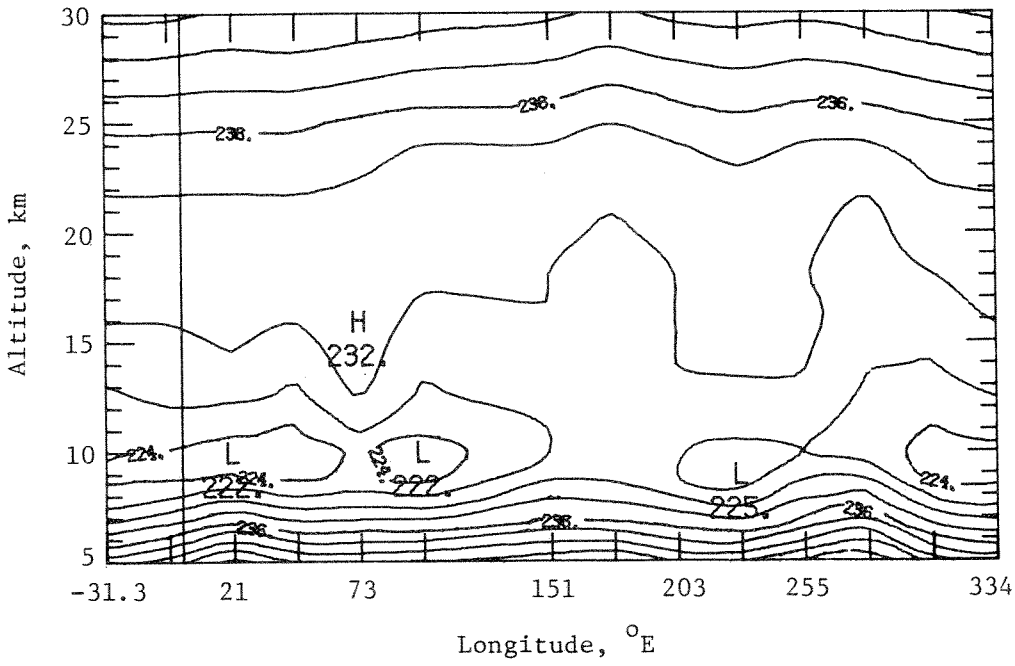


(b) Temperature contours.

Figure 44.- Antarctic extinction isopleth and temperature contours for December 12.03 to 13.04, 1979, at latitudes from 65.9° to 65.8° S corresponding to orbits 5719 to 5733.

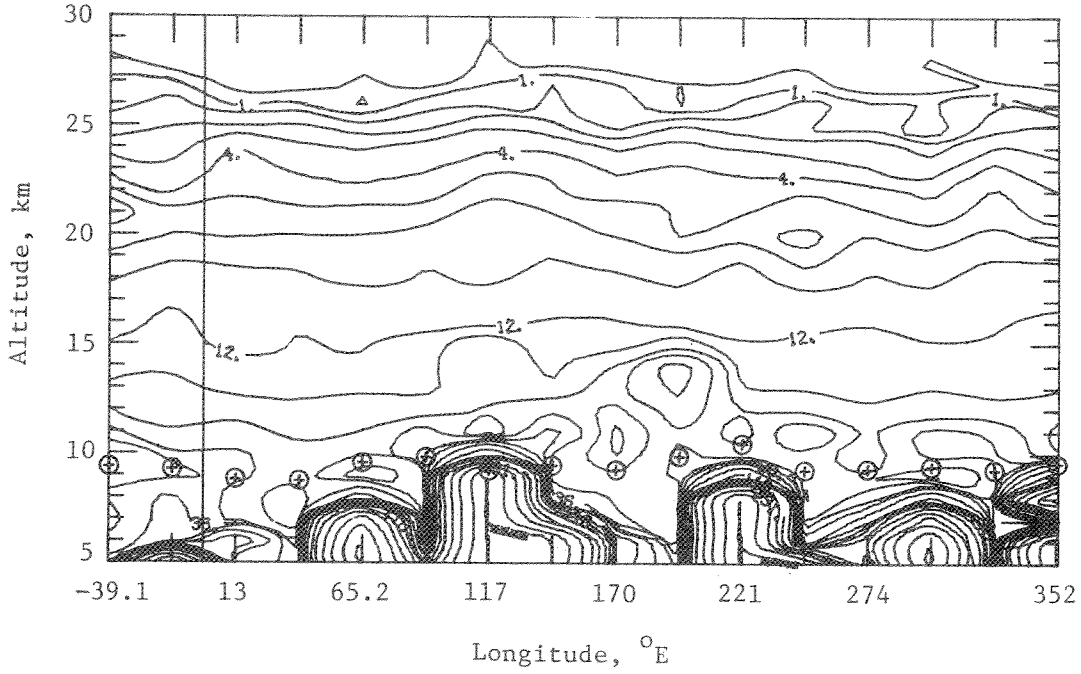


(a) Extinction isopleth.

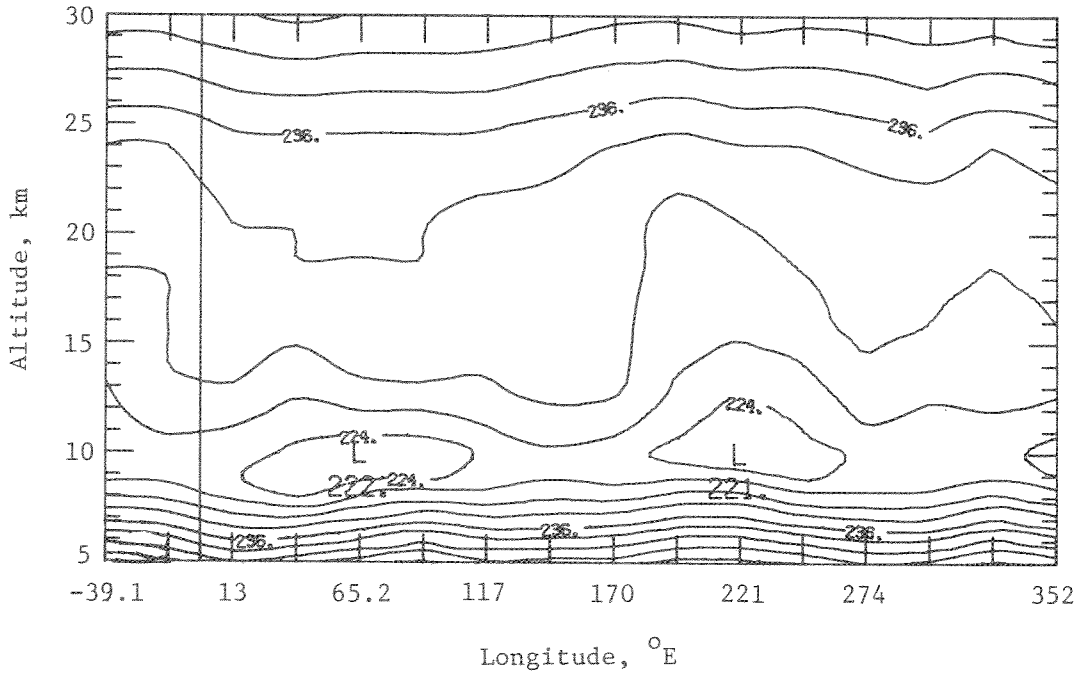


(b) Temperature contours.

Figure 45.- Antarctic extinction isopleth and temperature contours for December 17.02 to 18.03, 1979, at a latitude of 65.4° S corresponding to orbits 5788 to 5802.

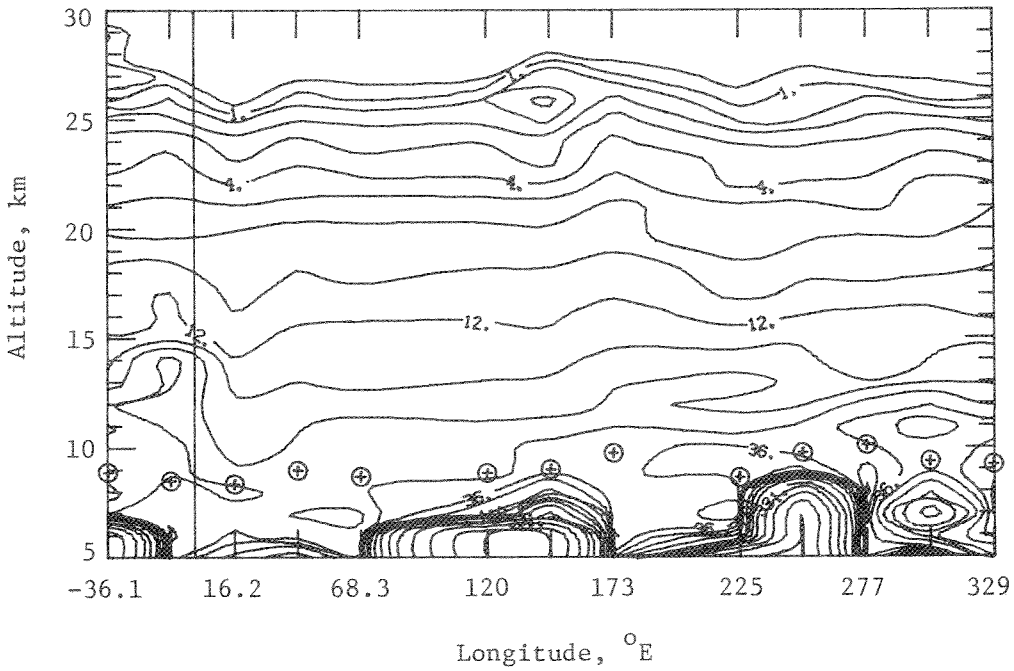


(a) Extinction isopleth.

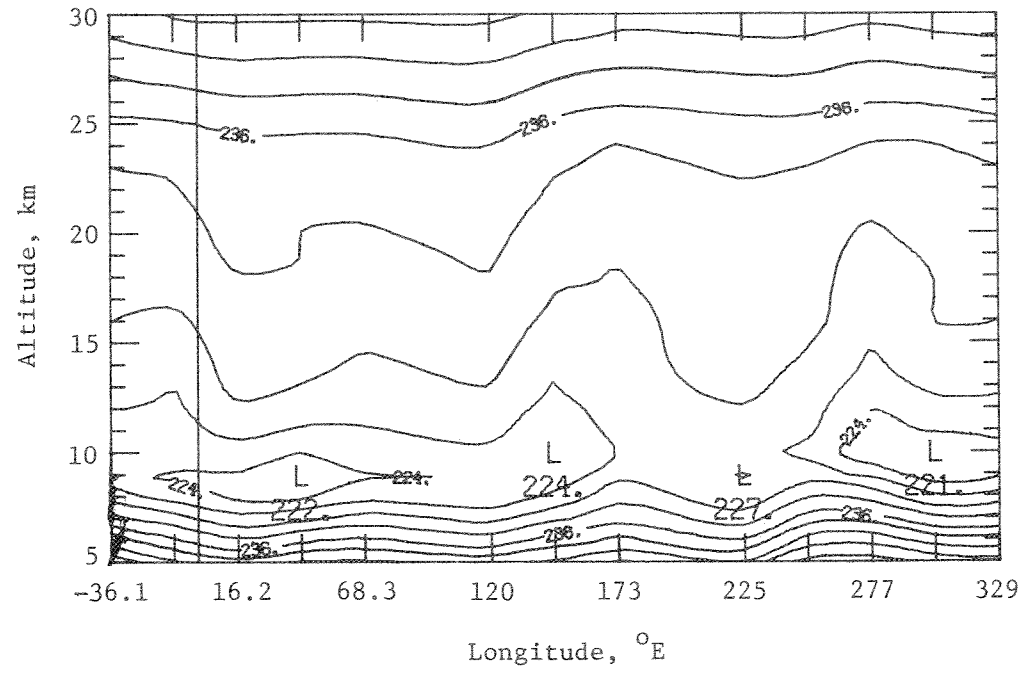


(b) Temperature contours.

Figure 46.- Antarctic extinction isopleth and temperature contours for December 23.97 to 25.05, 1979, at a latitude of 65.1° S corresponding to orbits 5884 to 5899.

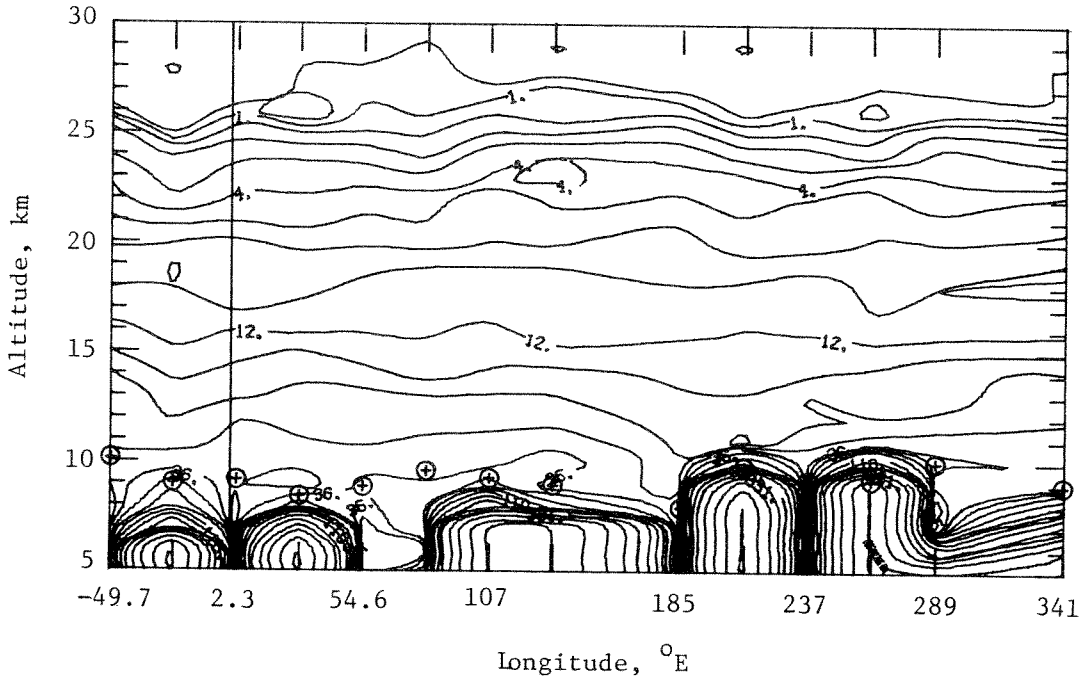


(a) Extinction isopleth.

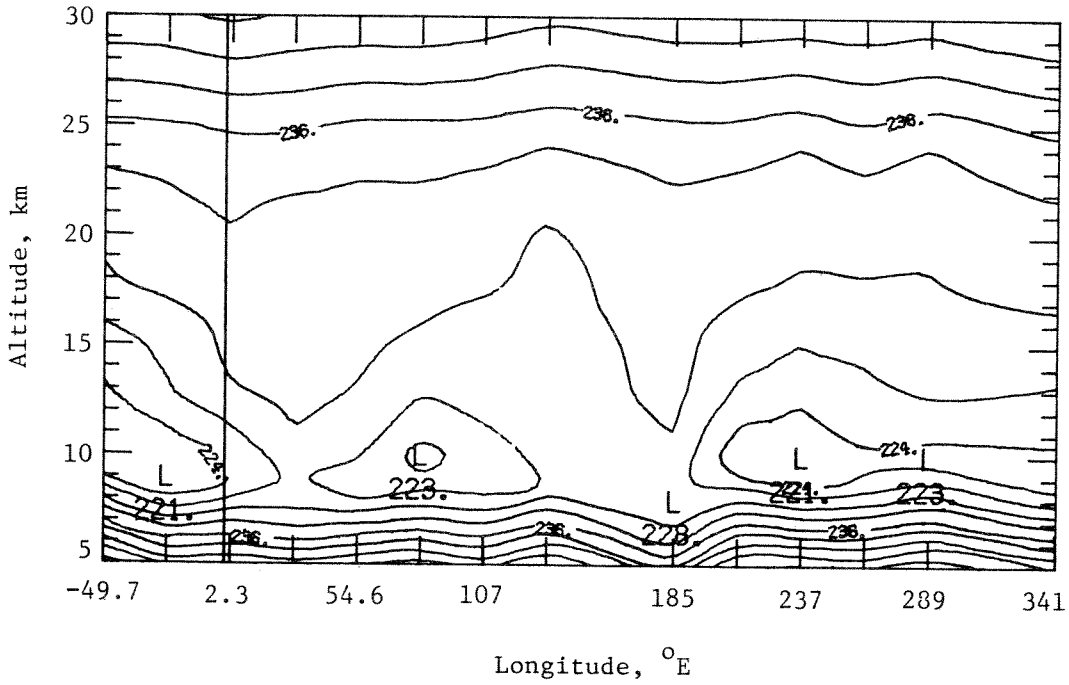


(b) Temperature contours.

Figure 47.- Antarctic extinction isopleth and temperature contours for January 3.03 to 4.04, 1980, at latitudes from 65.2° to 65.3° S corresponding to orbits 6023 to 6037.

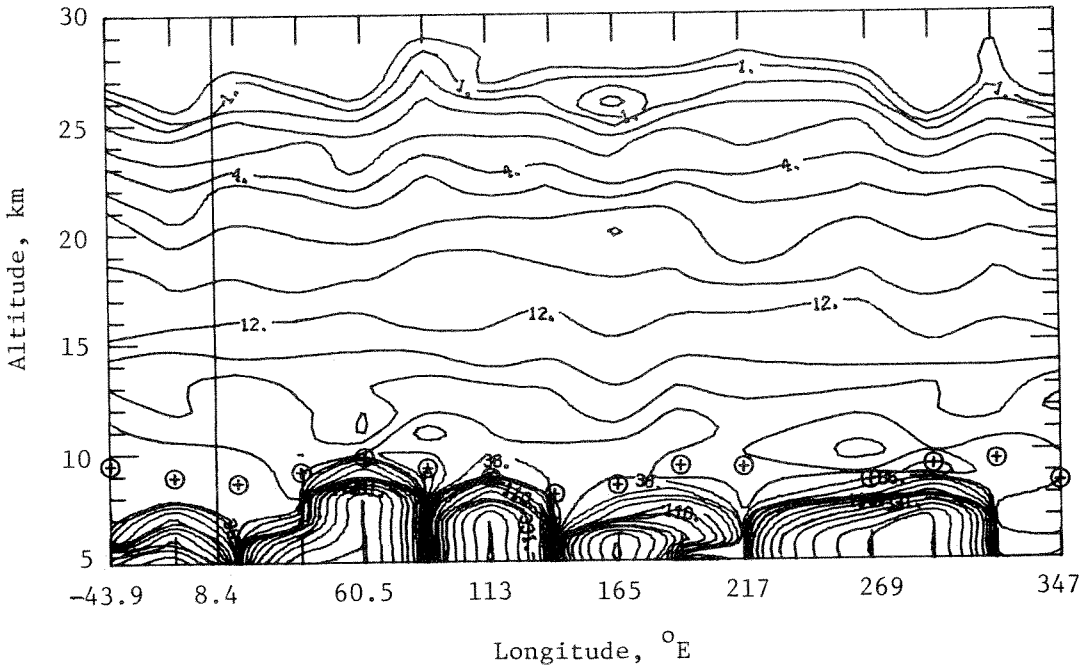


(a) Extinction isopleth.

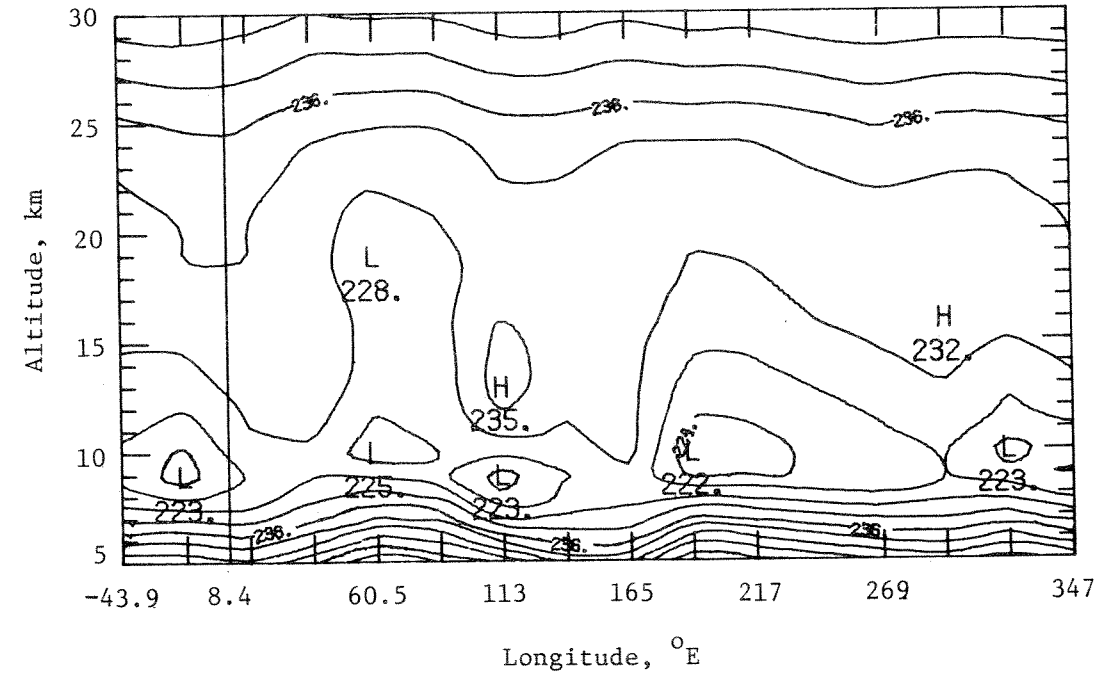


(b) Temperature contours.

Figure 48.- Antarctic extinction isopleth and temperature contours for January 10.99 to 12.07, 1980, at latitudes from 65.8° to 65.9° S corresponding to orbits 6133 to 6148.

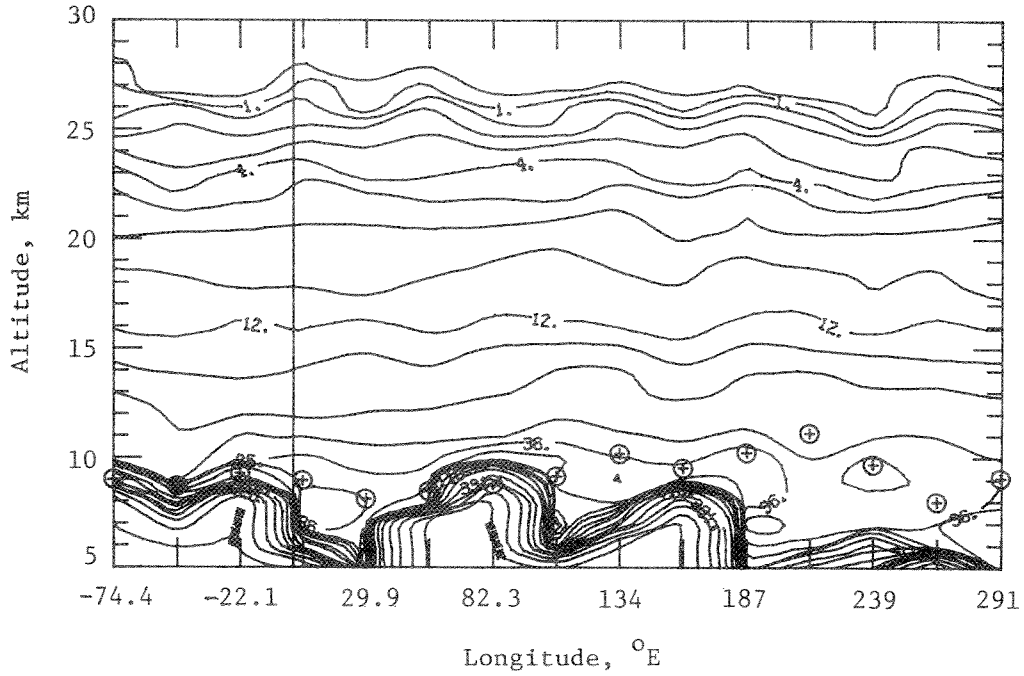


(a) Extinction isopleth.

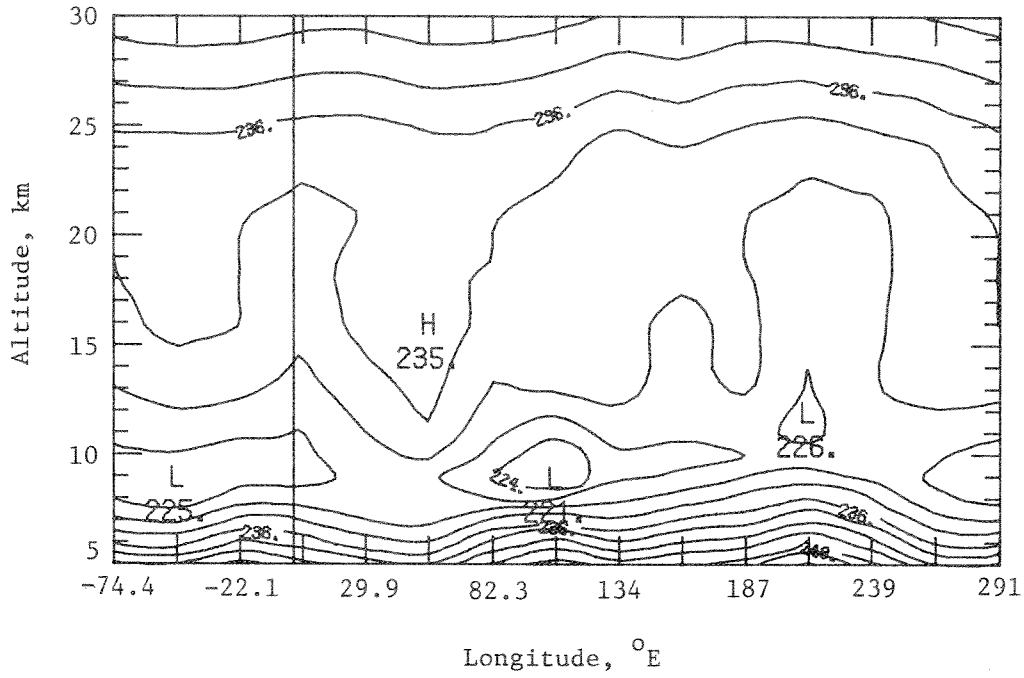


(b) Temperature contours.

Figure 49.- Antarctic extinction isopleth and temperature contours for January 14.97 to 16.05, 1980, at latitudes from 66.2° to 66.3° S corresponding to orbits 6188 to 6203.

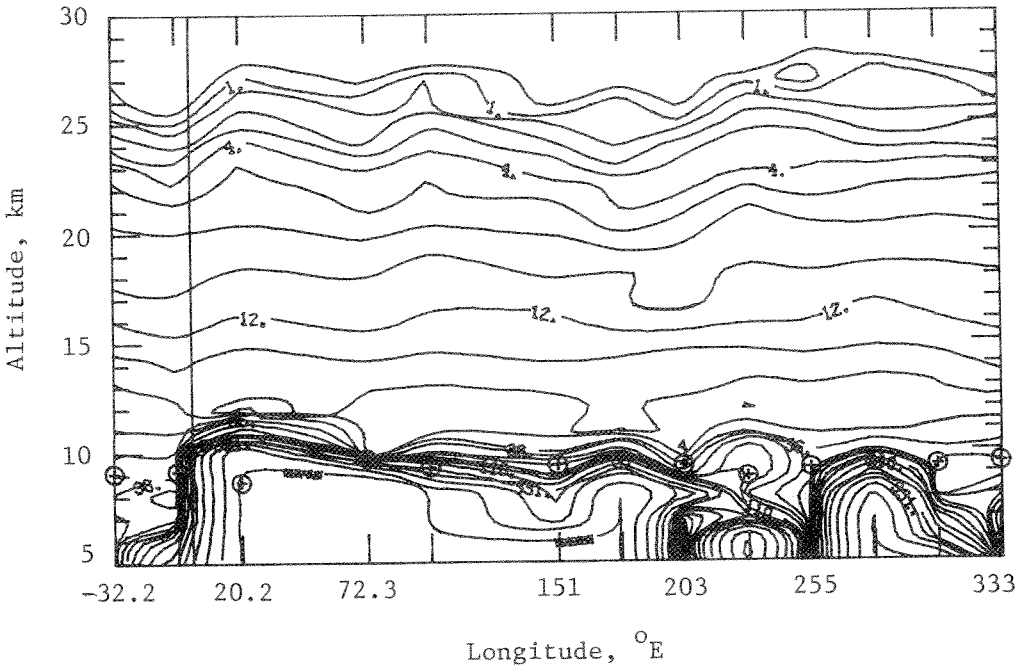


(a) Extinction isopleth.

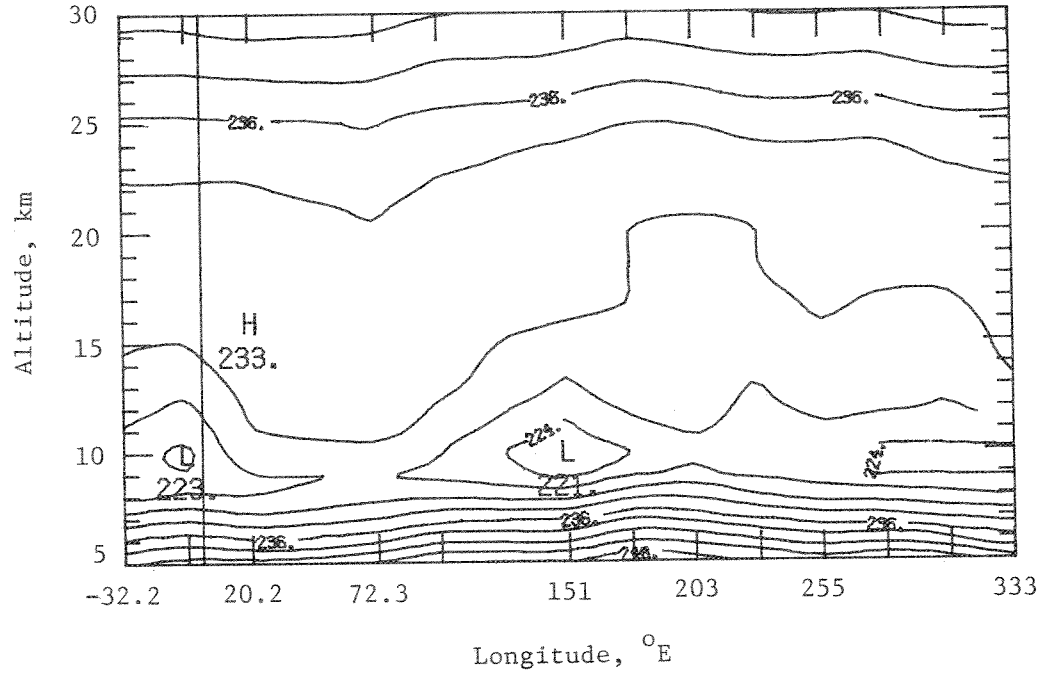


(b) Temperature contours.

Figure 50.- Antarctic extinction isopleth and temperature contours for January 21.12 to 22.13, 1980, at latitudes from 67.0° to 67.2° S corresponding to orbits 6273 to 6287.

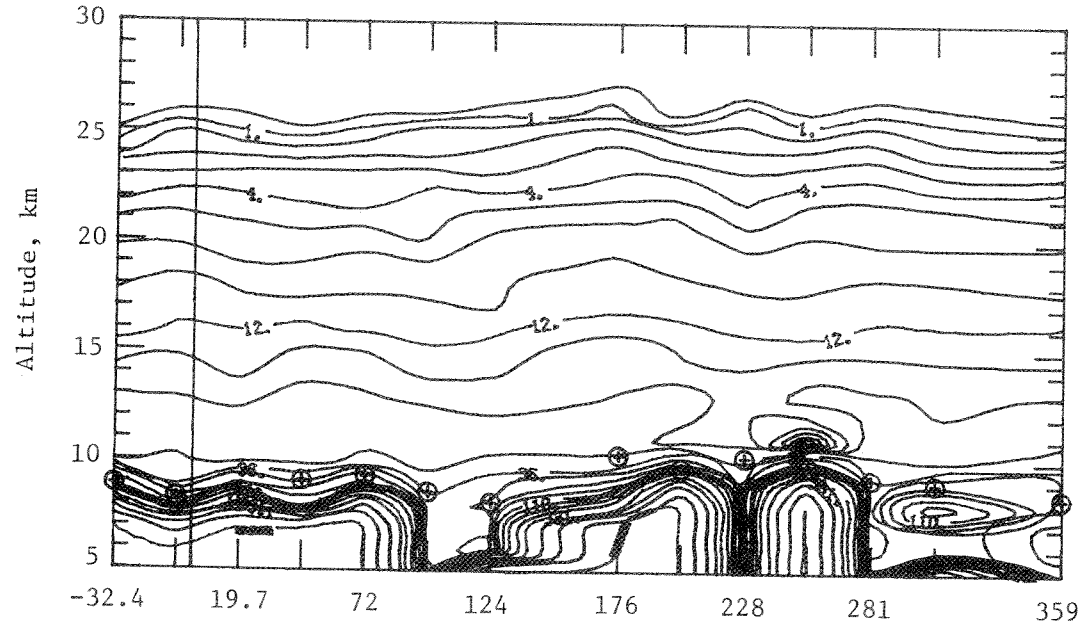


(a) Extinction isopleth.

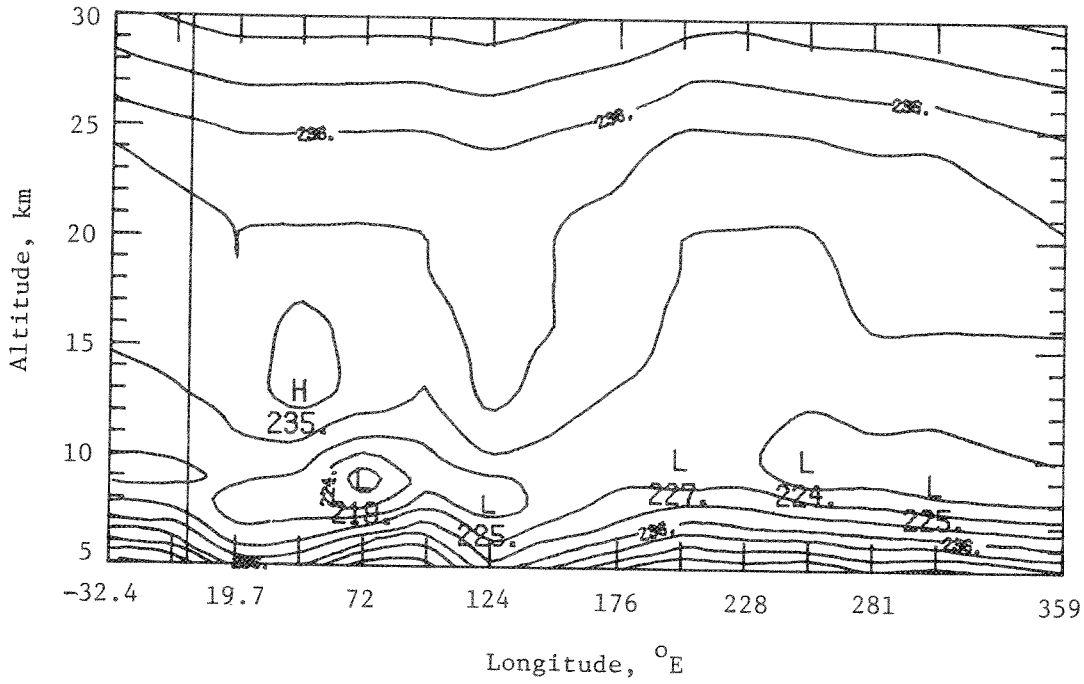


(b) Temperature contours.

Figure 51.- Antarctic extinction isopleth and temperature contours for January 27.99 to 29.01, 1980, at latitudes from 68.2° to 68.4° S corresponding to orbits 6368 to 6382.

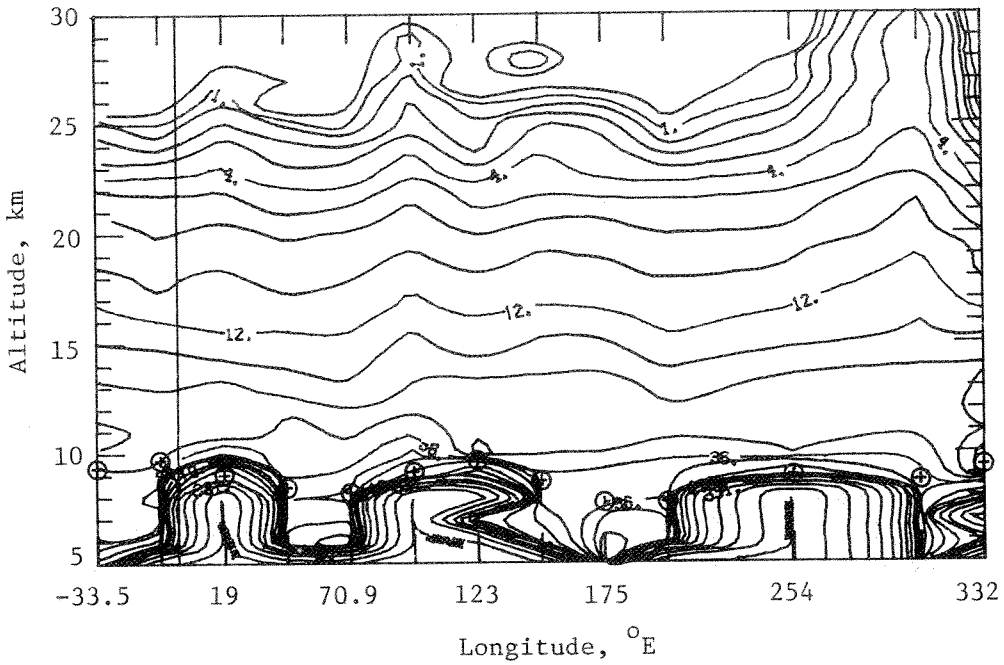


(a) Extinction isopleth.

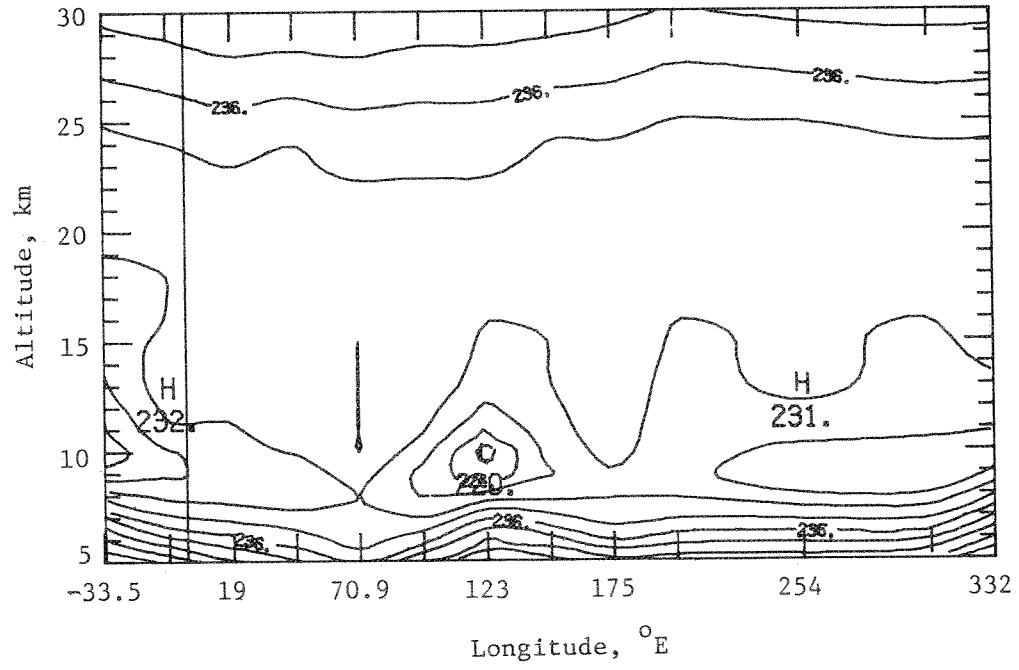


(b) Temperature contours.

Figure 52.- Antarctic extinction isopleth and temperature contours for February 6.91 to 7.99, 1980, at latitudes from 70.2° to 70.5° S corresponding to orbits 6505 to 6520.

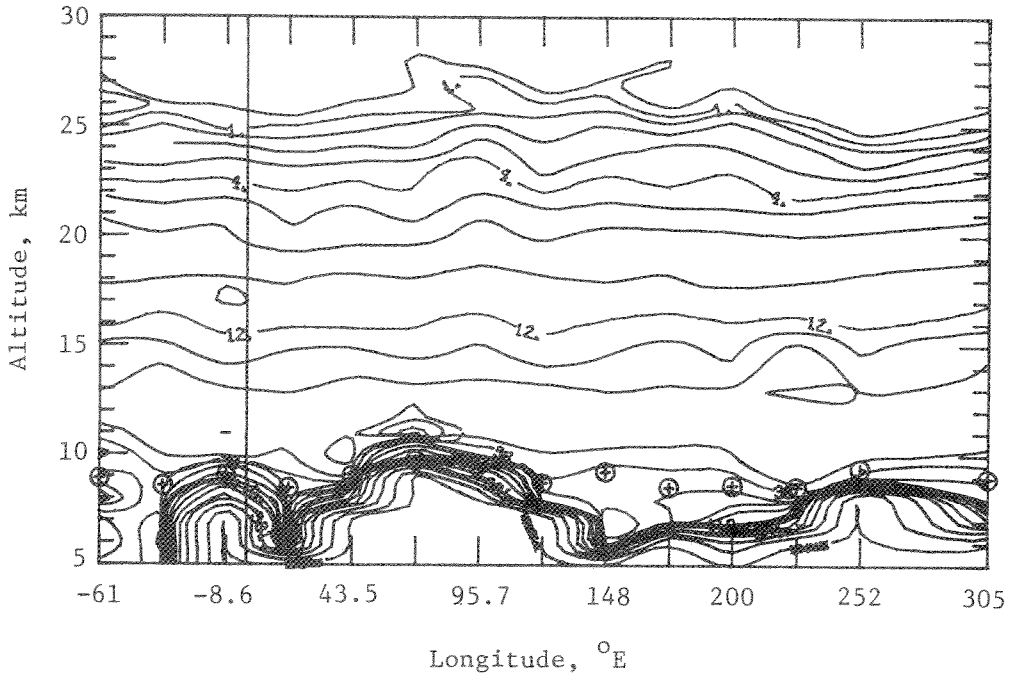


(a) Extinction isopleth.

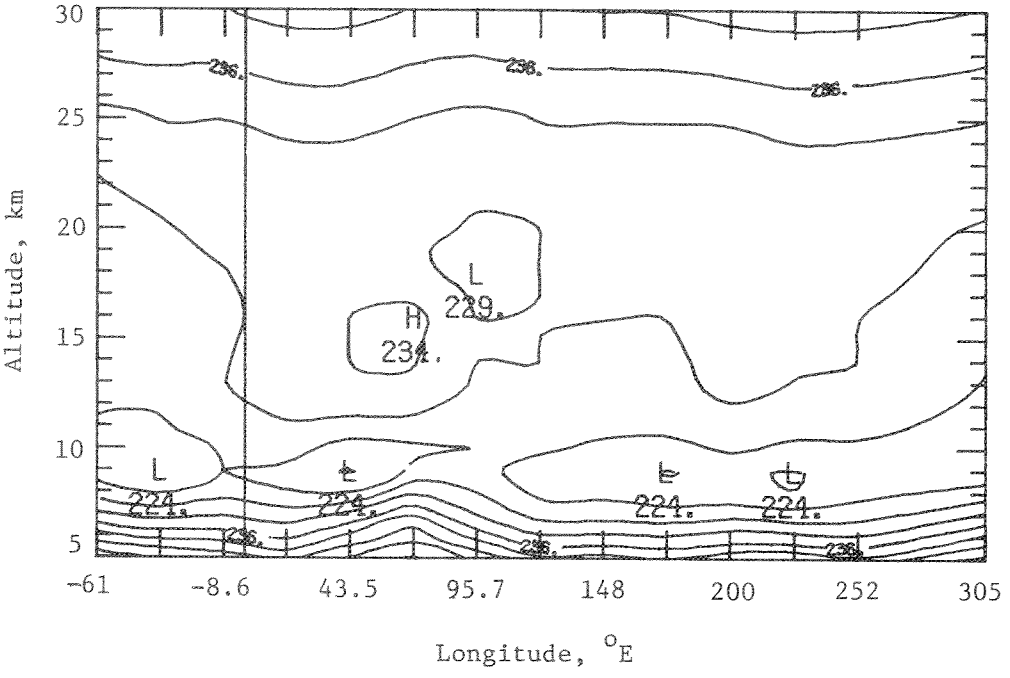


(b) Temperature contours.

Figure 53.- Antarctic extinction isopleth and temperature contours for February 11.97 to 12.99, 1980, at latitudes from 71.4° to 71.6° S corresponding to orbits 6575 to 6589.

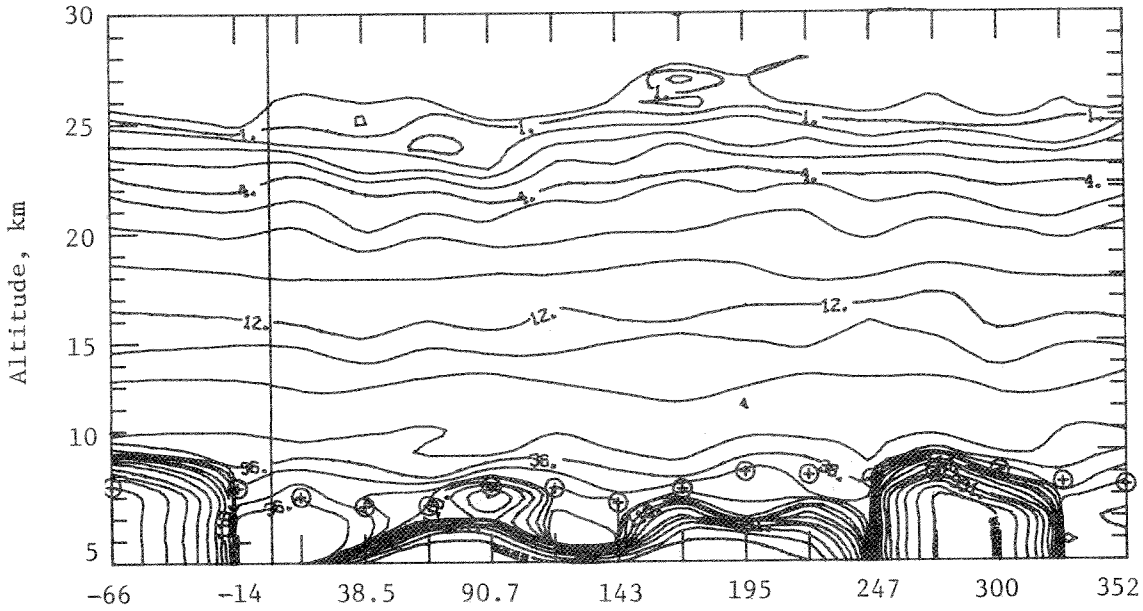


(a) Extinction isopleth.

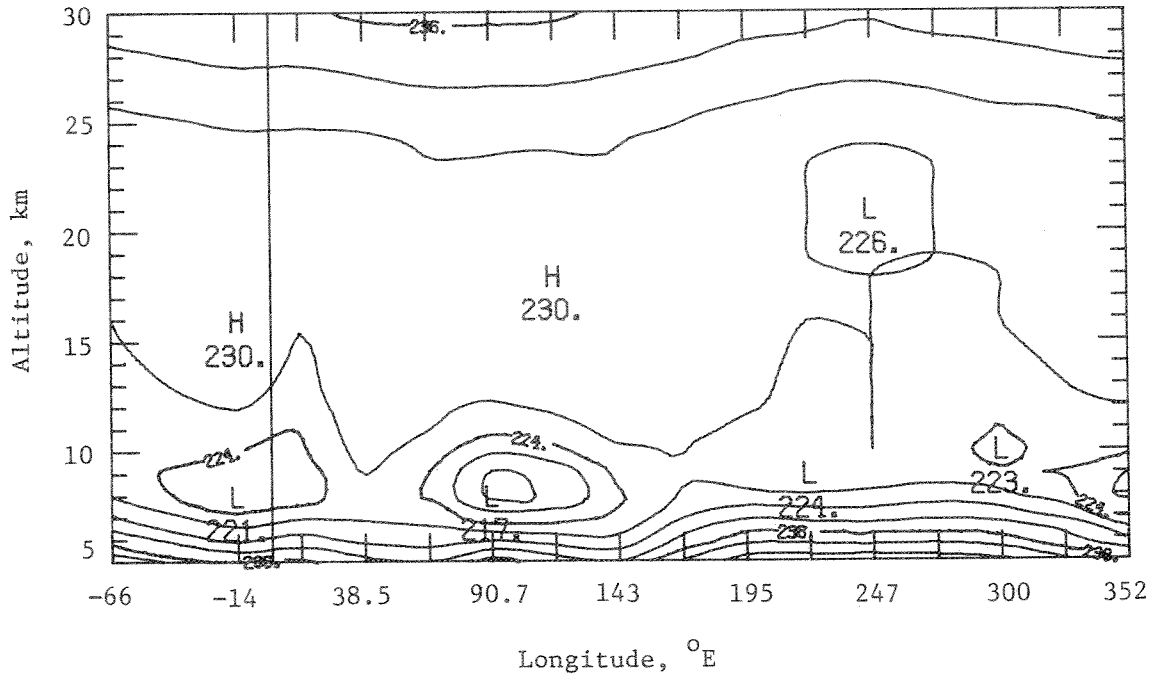


(b) Temperature contours.

Figure 54.- Antarctic extinction isopleth and temperature contours for February 17.04 to 18.05, 1980, at latitudes from 72.6° to 72.9° S corresponding to orbits 6645 to 6659.

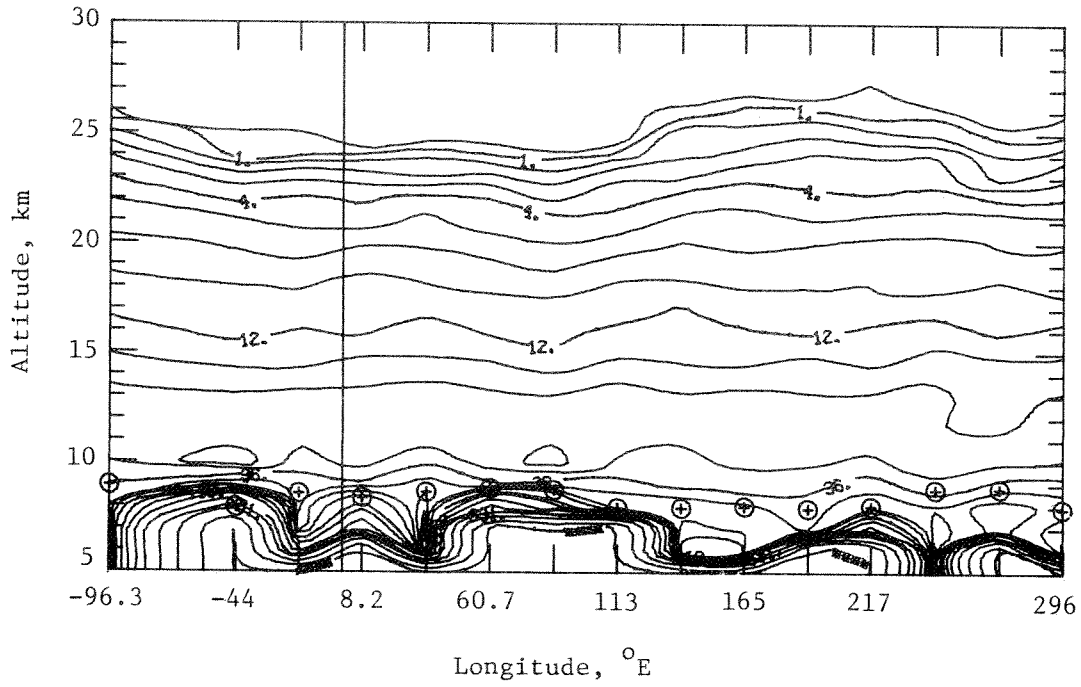


(a) Extinction isopleth.

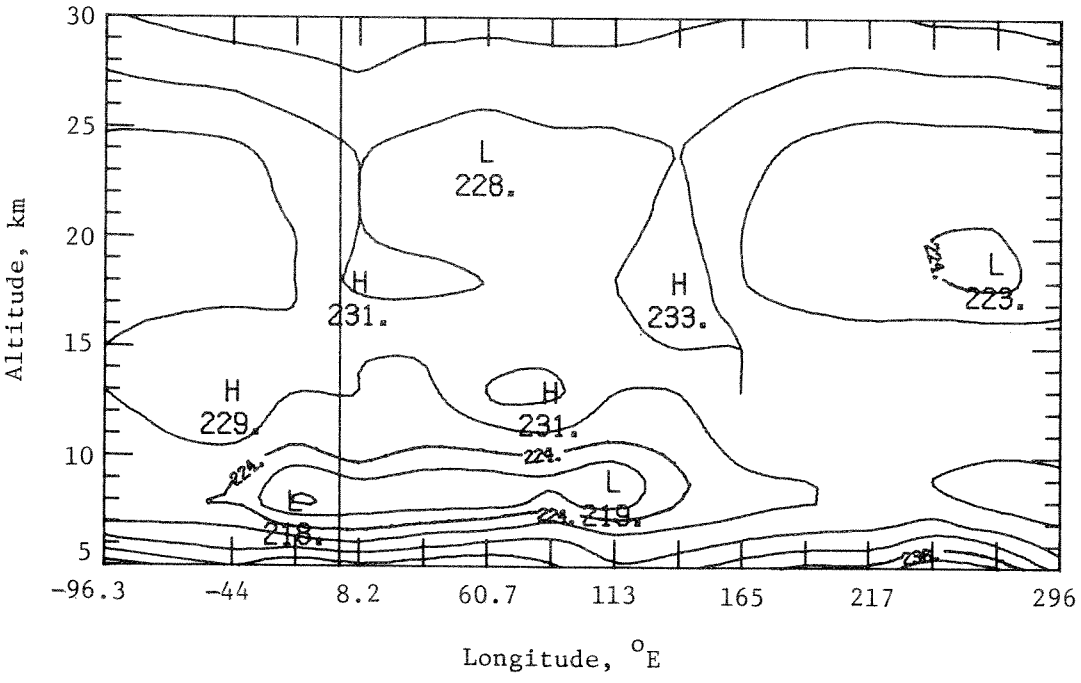


(b) Temperature contours.

Figure 55.- Antarctic extinction isopleth and temperature contours for February 26.88 to 28.04, 1980, at latitudes from 75.0° to 75.3° S corresponding to orbits 6781 to 6797.

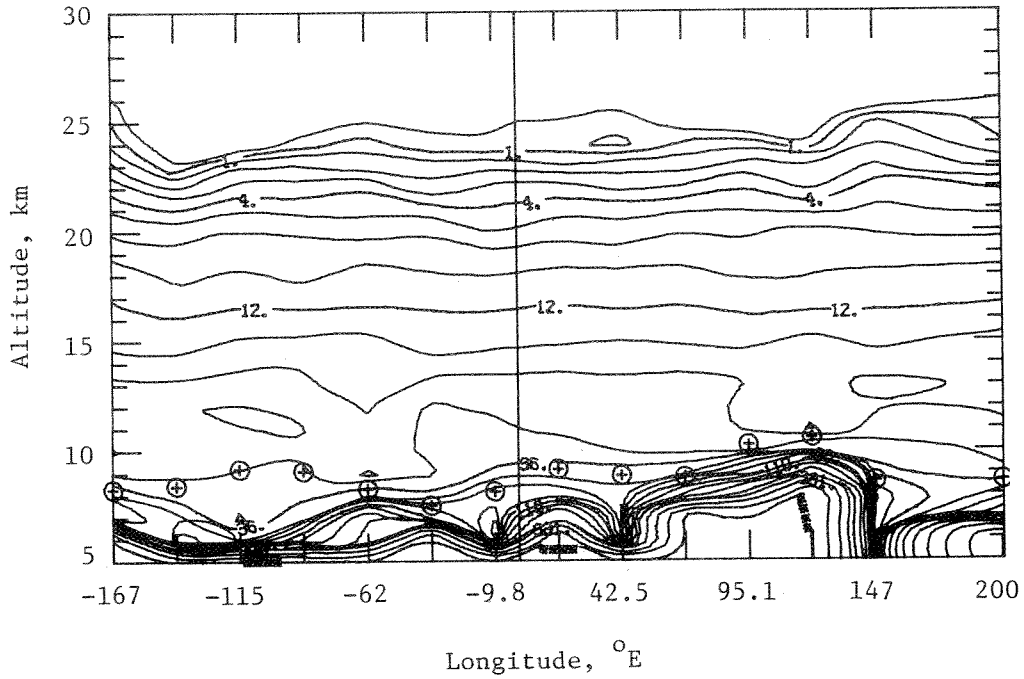


(a) Extinction isopleth.

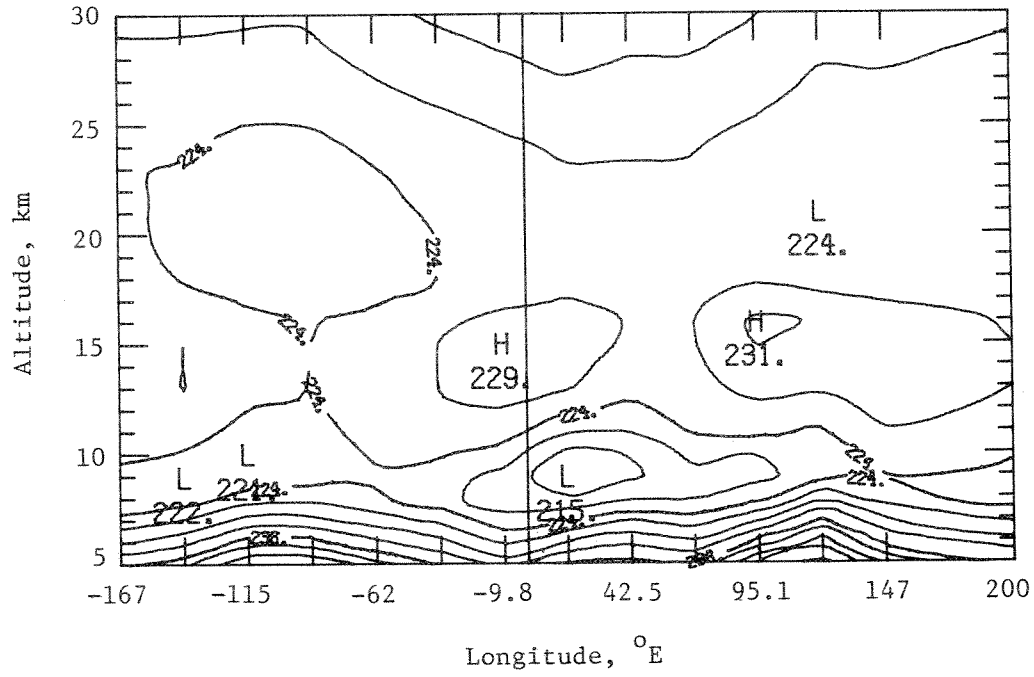


(b) Temperature contours.

Figure 56.- Antarctic extinction isopleth and temperature contours for March 3.02 to 4.11, 1980, at latitudes from 76.1° to 76.4° S corresponding to orbits 6852 to 6867.

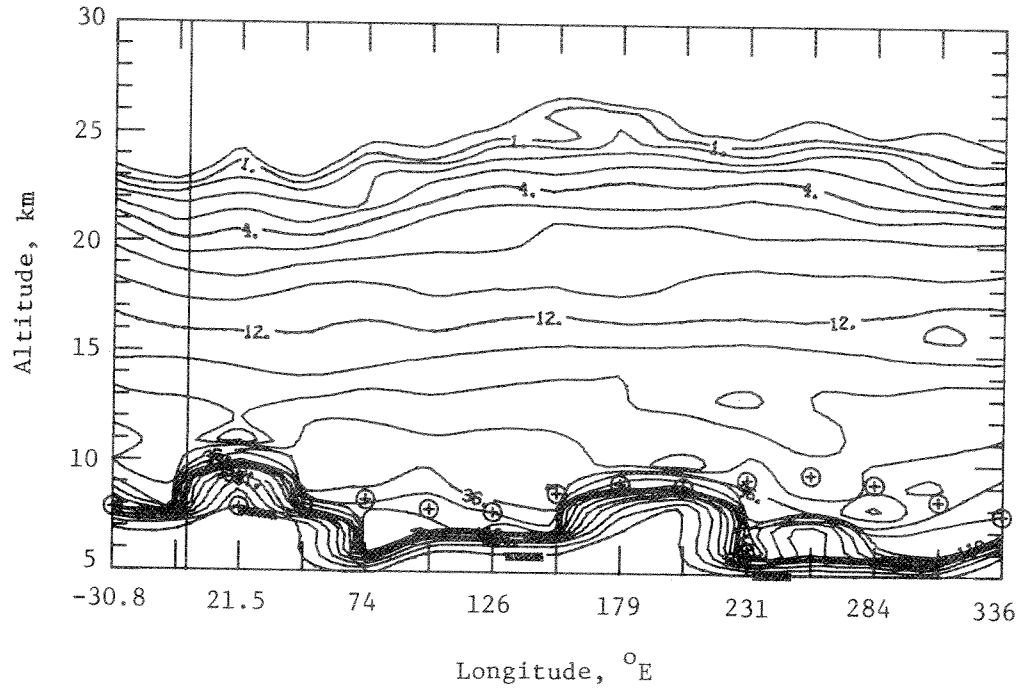


(a) Extinction isopleth.



(b) Temperature contours.

Figure 57.- Antarctic extinction isopleth and temperature contours for March 14.24 to 15.25, 1980, at latitudes from 78.1° to 78.2° S corresponding to orbits 7007 to 7021.



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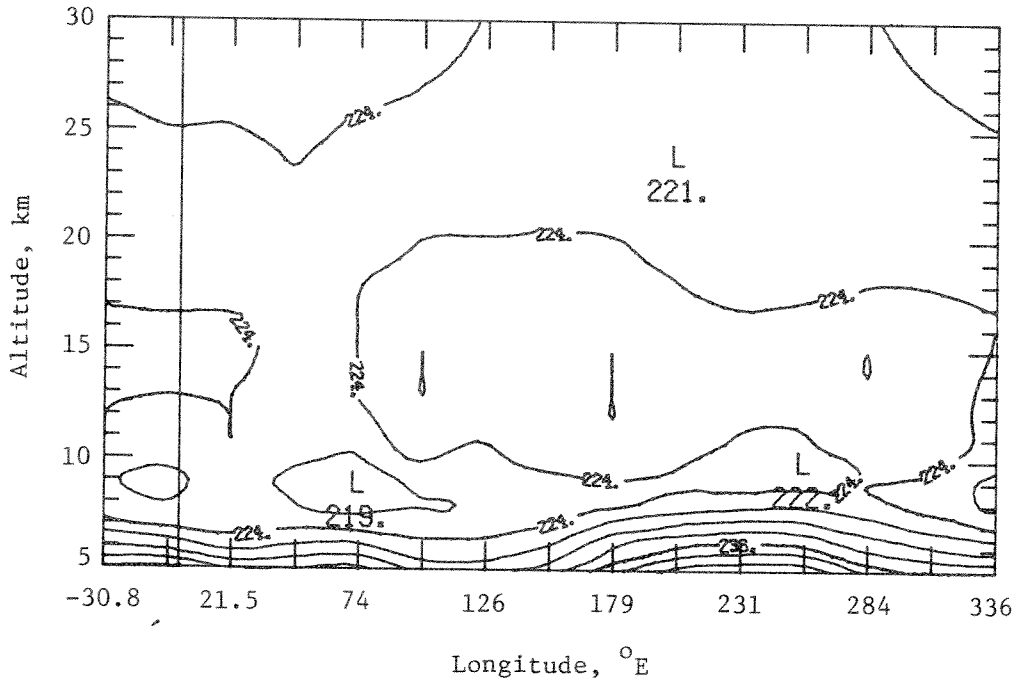
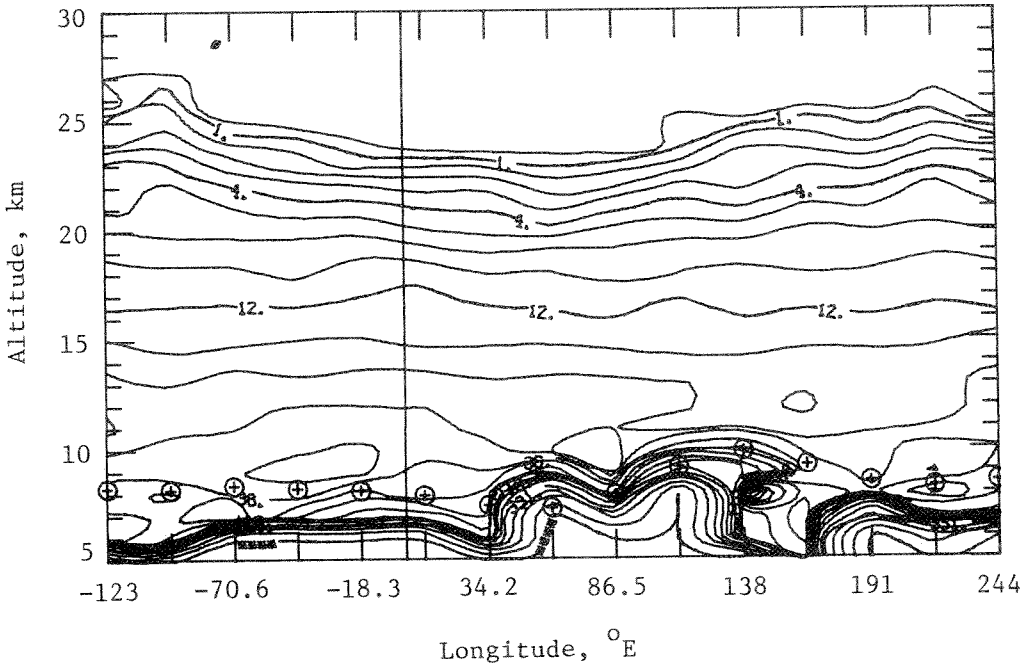
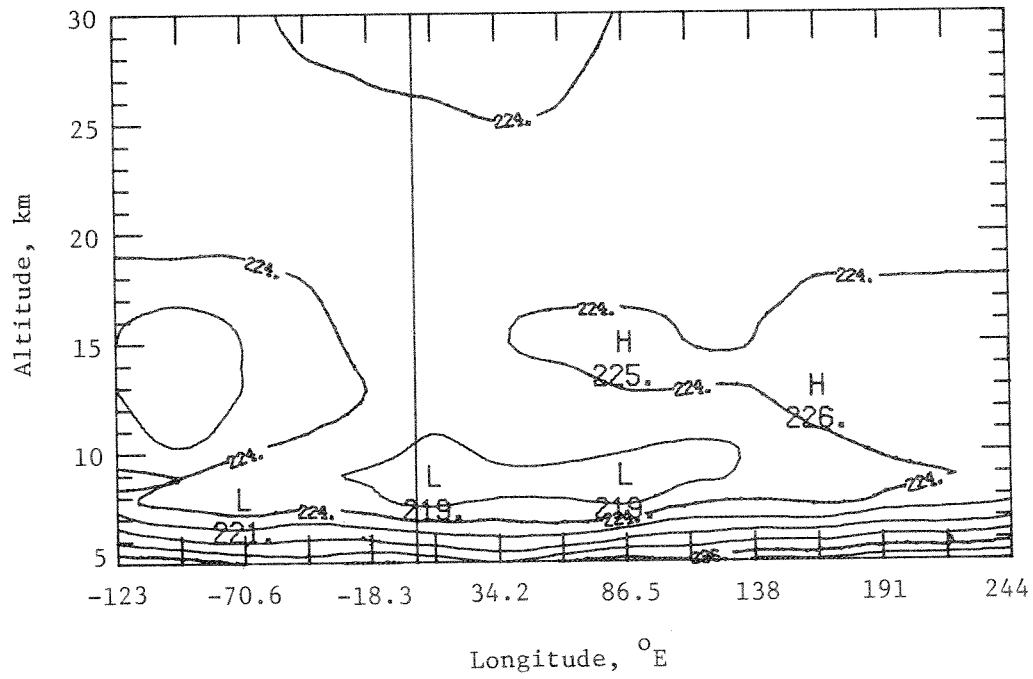


(b) Temperature contours.

Figure 58.- Antarctic extinction isopleth and temperature contours for March 20.82 to 21.84, 1980, at a latitude of 78.7° S corresponding to orbits 7098 to 7112.

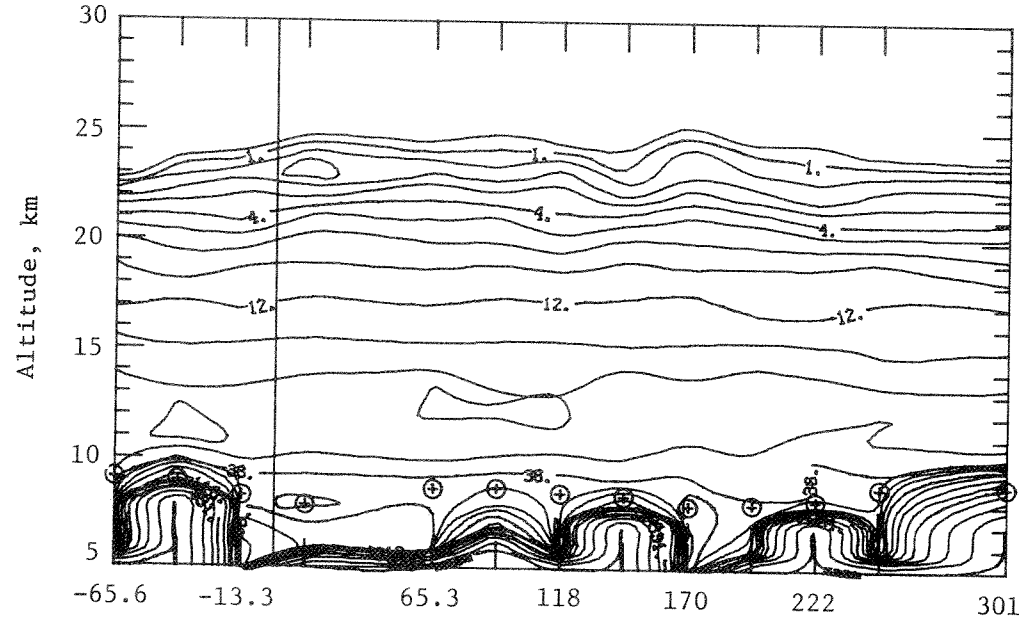


(a) Extinction isopleth.



(b) Temperature contours.

Figure 59.- Antarctic extinction isopleth and temperature contours for March 23.07 to 24.08, 1980, at a latitude of 78.7° S corresponding to orbits 7129 to 7143.



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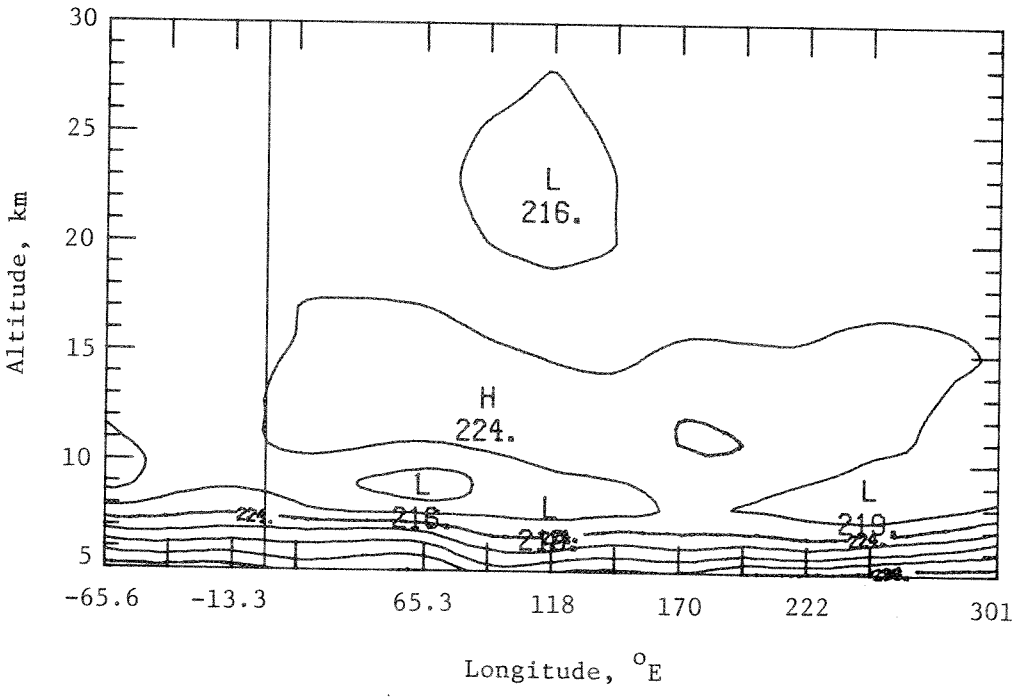
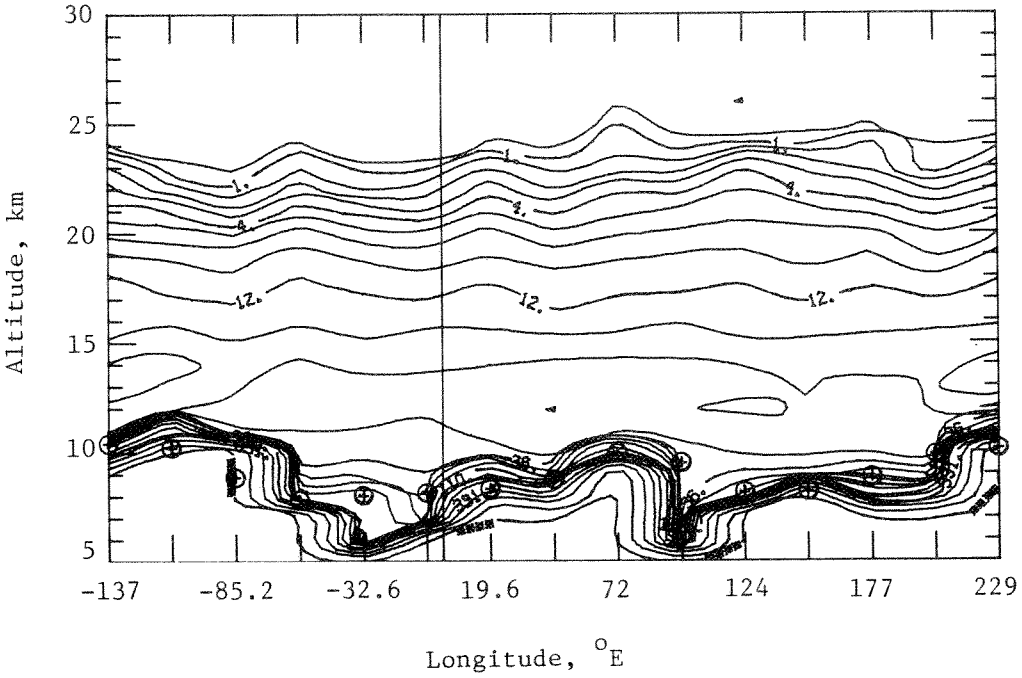
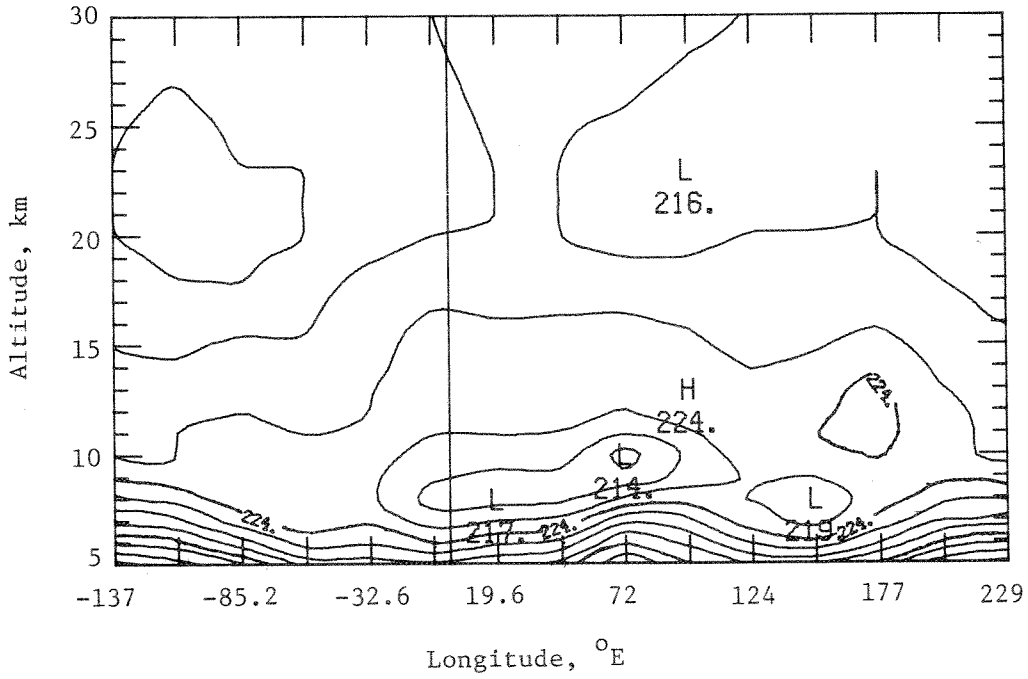


(b) Temperature contours.

Figure 60.- Antarctic extinction isopleth and temperature contours for April 2.85 to 3.86, 1980, at latitudes from 78.0° to 77.9° S corresponding to orbits 7278 to 7292.

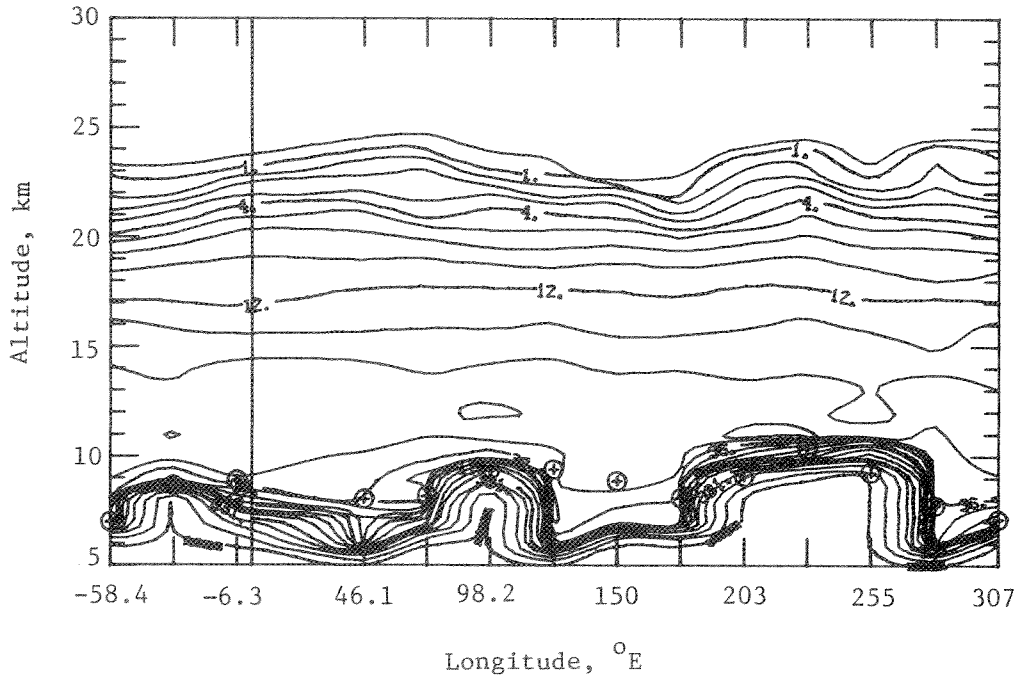


(a) Extinction isopleth.



(b) Temperature contours.

Figure 61.- Antarctic extinction isopleth and temperature contours for April 6.04 to 7.05, 1980, at latitudes from 77.6° to 77.4° S corresponding to orbits 7322 to 7336.



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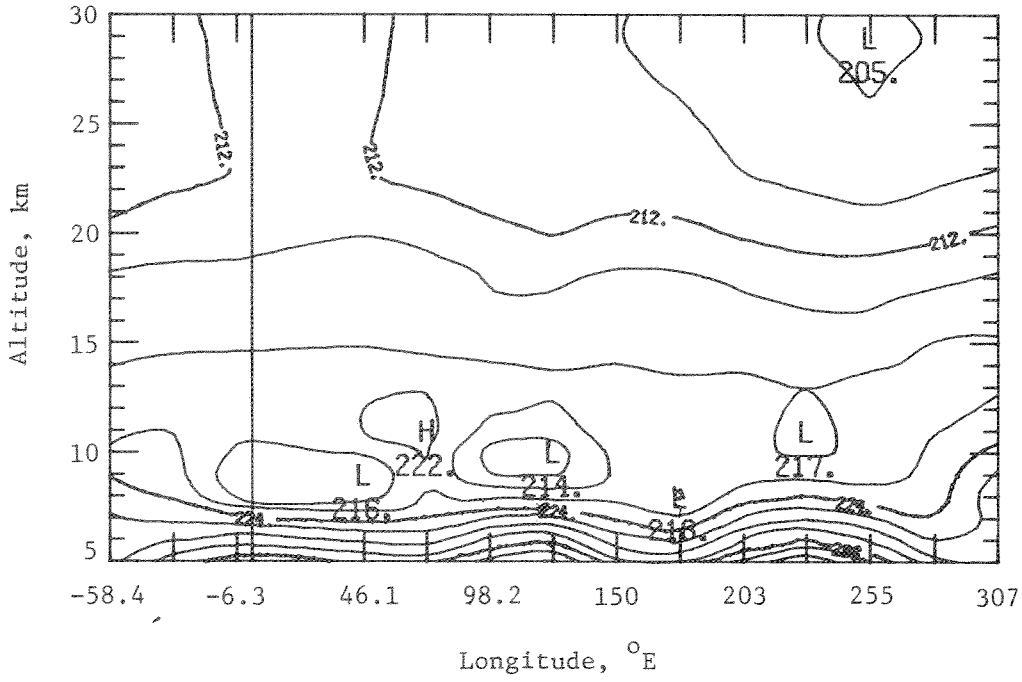
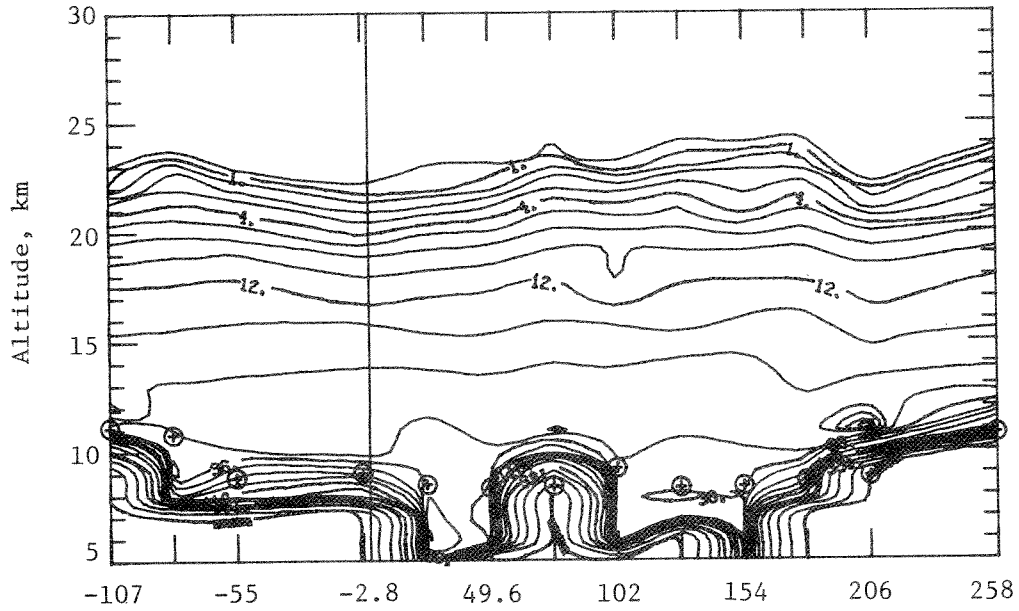


(b) Temperature contours.

Figure 62.- Antarctic extinction isopleth and temperature contours for April 18.77 to 19.79, 1980, at latitudes from 74.9° to 74.7° S corresponding to orbits 7498 to 7512.



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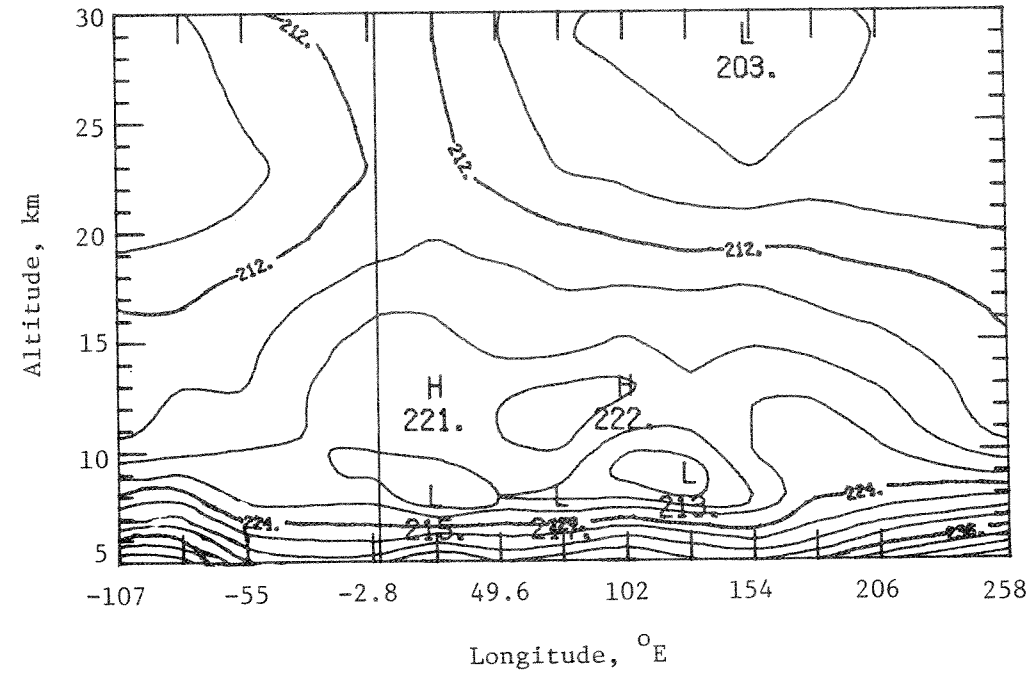
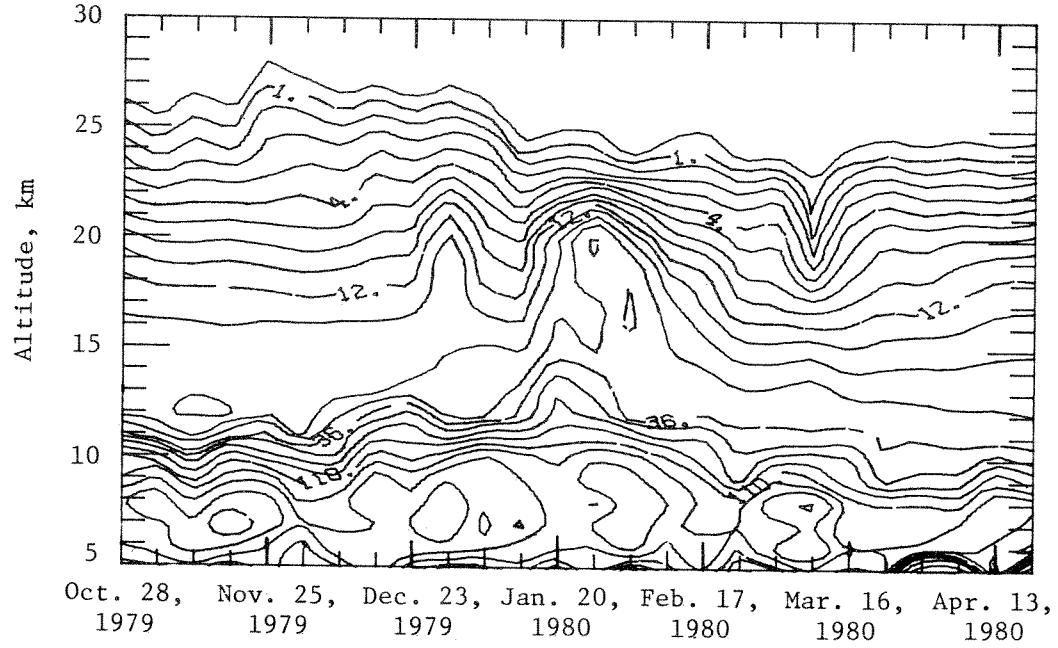
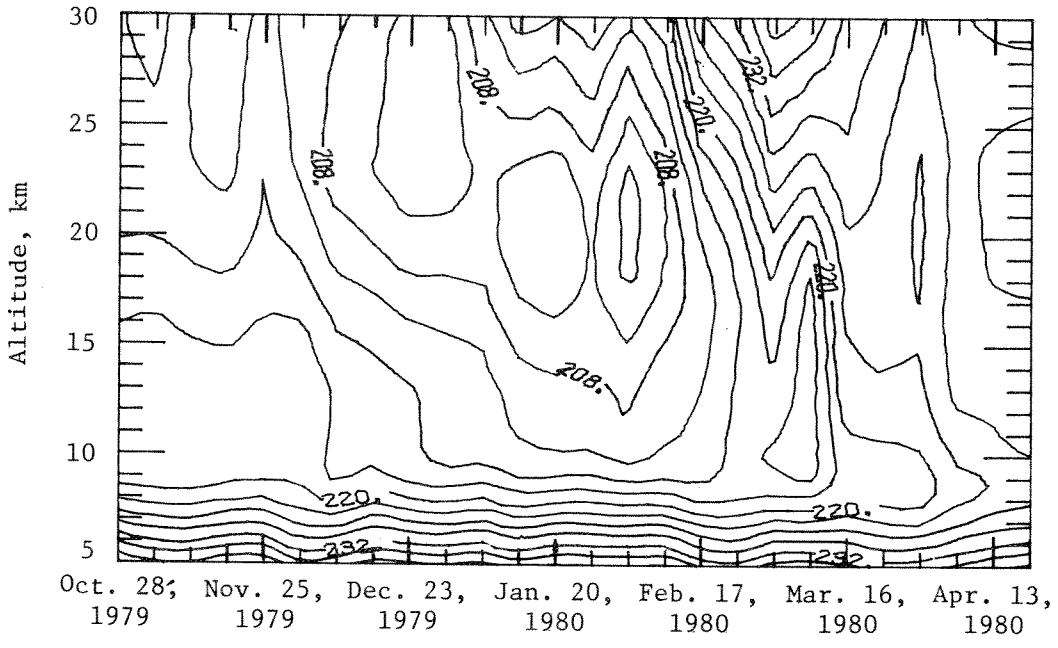


(b) Temperature contours.

Figure 63.- Antarctic extinction isopleth and temperature contours for April 22.90 to 23.91, 1980, at latitudes from 74.0° to 73.7° S corresponding to orbits 7555 to 7569.

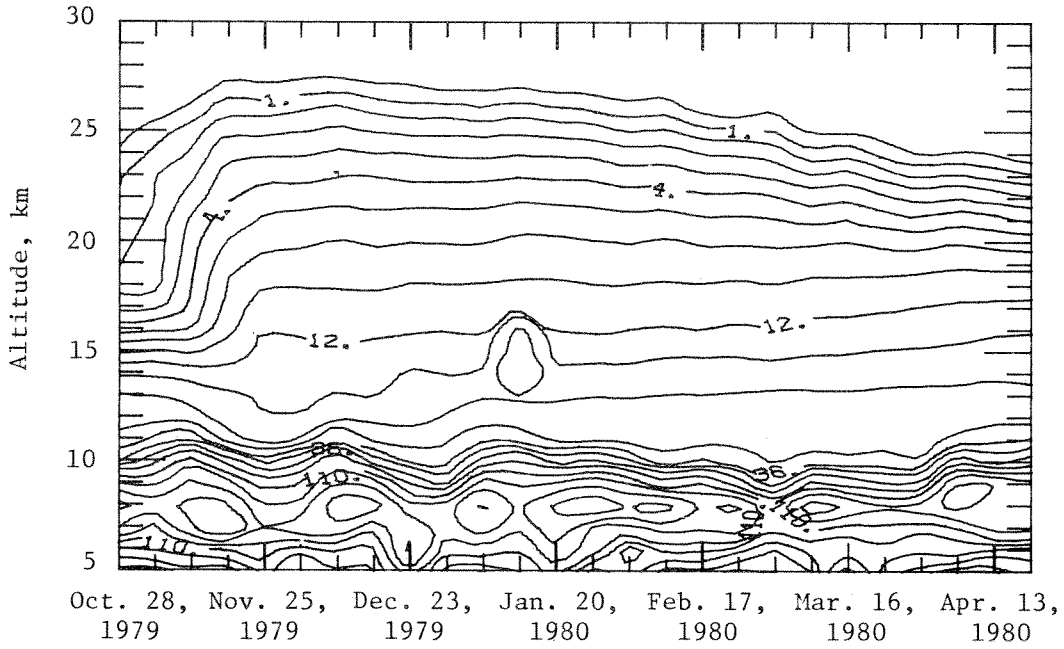


(a) Aerosol extinction at 1 μm in units of 10^{-5} km^{-1}.

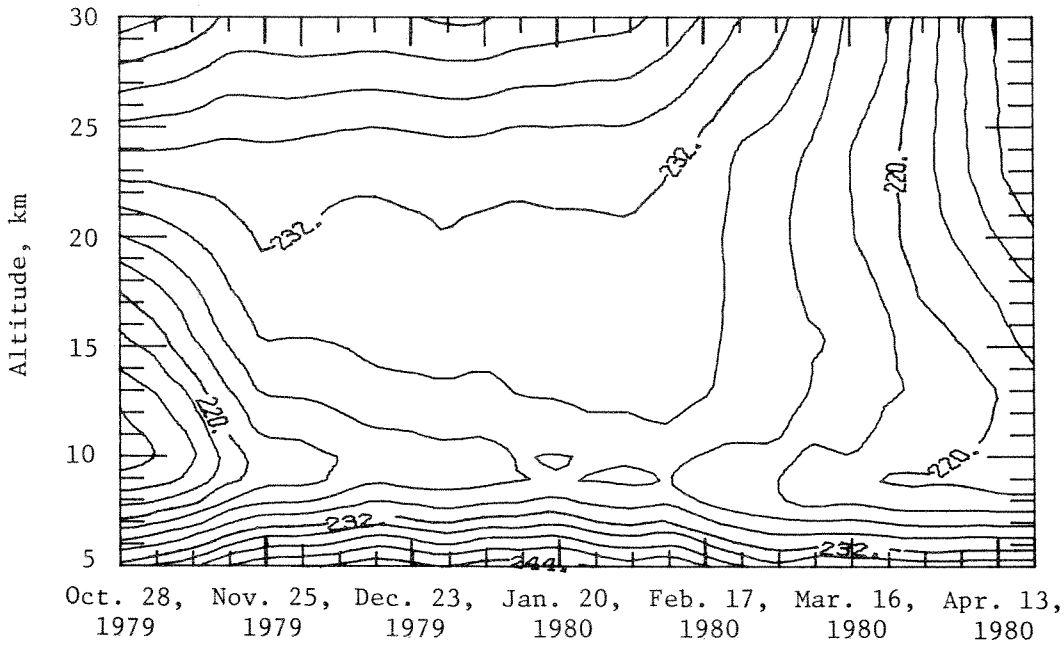


(b) Temperature field in kelvin at location of aerosol measurement.

Figure 64.- Arctic extinction and temperature data showing weekly averaged values. The date marked on the horizontal axis is the first day of the week to which the average value corresponds.



(a) Aerosol extinction at 1 μm in units of 10^{-5} km^{-1}.



(b) Temperature field in kelvin at location of aerosol measurement.

Figure 65.- Antarctic extinction and temperature data showing weekly averaged values. The date marked on the horizontal axis is the first day of the week to which the average value corresponds.

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.
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15. Supplementary Notes

M. Patrick McCormick: Langley Research Center, Hampton, Virginia.
David Brandl: Systems and Applied Sciences Corporation, Hampton, Virginia.
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16. Abstract

The Stratospheric Aerosol Measurement (SAM) II sensor is aboard the Earth-orbiting Nimbus 7 spacecraft providing extinction measurements of the Antarctic and Arctic stratospheric aerosol with a vertical resolution of 1 km. Representative examples and weekly averages of aerosol data and corresponding temperature profiles for the time and place of each SAM II measurement (Oct. 1979 through Apr. 1980) are presented. Contours of aerosol extinction as a function of altitude and longitude or time are plotted and weekly aerosol optical depths are calculated. Seasonal variations and variations in space (altitude and longitude) for both polar regions are easily seen. Typical values of aerosol extinction at the SAM II wavelength of 1.0 μm for this time period are 2 to 4 times 10^{-4} km^{-1} in the main stratospheric aerosol layer. Optical depths for the stratosphere are about 0.002 to 0.003, up slightly over normal background levels (due to the eruption of Sierra Negra, Nov. 1979). Polar stratospheric clouds at altitudes of about 22 km were observed during the Arctic winter. A ready-to-use format containing a representative sample of the third 6 months of data to be used in atmospheric and climatic studies is presented.

17. Key Words (Suggested by Author(s))	18. Distribution Statement
Stratosphere Satellite Aerosols Optical depth Extinction Remote sensing	Unclassified - Unlimited Subject Category 46

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Unclassified	Unclassified	78	A05

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