

# Data Release 5 (Mariner 10)

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Hydrogen Ly-alpha backscattered emission and Helium 584A backscattered solar emission from Roll Control Maneuver #7 of Mariner 10.

The following are available:

- [The rcm7 data file](#)
- [rcm7.diff release and data layout description](#)
- [tar file](#)
- Main papers describing scientific results of data analysis:
  - a) Ajello, J.~M., "An interpretation of Mariner 10 helium (584 A) and hydrogen (1216 A) interplanetary emission observations", *Astrophysical Journal*, vol. 222, pp 1068-1079, 1978 doi=10.1086/156224
  - b) Ajello, J.~M. and Witt, N. and Blum, P.~W., "Four UV observations of the interstellar wind by Mariner 10 - Analysis with spherically symmetric solar radiation models", *Astrophysical Journal*, volume 73, pp260-271, 1979

Explanation of Mariner 10 data file

August 4, 2013

Author: P. C. Frisch

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Contents of file=rcm7.diff : Hydrogen Ly-alpha backscattered emission and Helium 584A backscattered solar emission from Roll Control Maneuver #7 of Mariner 10.

1) Main papers describing scientific results of data:

a) Ajello, J.~M., "An interpretation of Mariner 10 helium (584 A) and hydrogen (1216 A) interplanetary emission observations", *Astrophysical Journal*, vol. 222, pp 1068-1079, 1978 doi=10.1086/156224

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2) File information:

a) Source of data: Wayne Pryor <Wayne.Pryor@centralaz.edu> and Joe Ajello <joseph.m.ajello@jpl.nasa.gov>;

b) File header:

664

READOUT

	-0.500	0.560	0.030			
ELAT	ELON	RAY H	CTS H	RAY HE	CTS HE	
-1.713	5.819	156.863	112.000	14.801	115.000	
-1.722	5.815	156.863	112.000	14.801	115.000	
-1.735	5.820	169.468	121.000	13.642	106.000	

Lines 1 and 2, unused

line 3: XYZ location of spacecraft during observations in ecliptic coordinates

and for the epoch of observation (see science papers above, and others by same authors).

line 4: header information:

column 1, 2: ecliptic longitude and latitude of viewing sightline

column 3, 4: Flux of neutral hydrogen Lyman-alpha emission in Rayleighs; number of counts

column 5, 6: Flux of neutral helium 584A emission in Rayleighs; number of counts