## 2. PARAMETER DEFINITIONS

**section**

Each day's observations of the sky may be broken up into a number of sections (up to 8). The sections are delineated by look angle. Pointing corrections are determined for each section (Paper I - the need for sectioning; Paper II - the pointing of sections).

**look angle**

The polar angle between the +z spin axis and the pointing direction of the instrument as determined by telemetry (Papers I and II).

**elongation**

The angle between pointing direction and the sun.

**+ z spin axis**

That end of the spacecraft spin axis which points toward the earth. If one's thumb points toward + z, the spacecraft spins according to a right-hand rule.

**sector**

One spacecraft spin is divided into 64 sectors (Paper I).

**clock angle**

The true azimuthal angle swept out by the spin of the spacecraft. The clock angle is zero at that node of the ecliptic at which the instrument is rotating into the northern hemisphere (Paper II).

**cone angle**

True polar angle between + z spin axis and pointing of instrument (Paper II).

**BP, RP, BS, RS**
**Parallel**
**Senkrecht**

The radiance reading (in relative or EDR units) as given by the four channels of the imaging photopolarimeter (IPP). The B designation stands for blue, the R for red. The S and P designations represent orthogonal directions of polarization. Define an "instrumental" coordinate system based on a Senkrecht (S) direction, which is parallel to the IPP rotation axis and perpendicular to the spacecraft spin axis, and a direction Parallel (P) to the spacecraft spin axis; i.e., the S vector is along the longer side of the effective field-of-view and the P vector is along the shorter. Assume the light source observed with the IPP is partially plane-polarized. This light can be divided into an unpolarized part, $I_u$, and a completely plane polarized component, $I_{pol}$. Let the amplitude of the polarized component be $\vec{E}_{pol}$ where $|\vec{E}_{pol}|^2 = I_{pol}$. If $\theta$ is the angle between the S direction and the plane of polarization, the component of $\vec{E}_{pol}$ in the S direction is $|\vec{E}_{pol}| \cos\theta$, and the component in the P direction is $|\vec{E}_{pol}| \sin\theta$. The intensities seen by the S

Note: The EDR (Experiment Data Record) unit is a unit of relative instrument response. All reduction is performed in these units, including star subtraction. Absolute calibration is to be applied to the final results BY THE USER.