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A TEMPORAL STUDY OF THE RADIANCE OF THE F-CORONA CLOSE TO THE SUN

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During the Skylab mission - May 1973 through February 1974 - the High Altitude Observatory's white light coronagraph observed the sum of the F-corona, electron scattered K-corona, and instrumental stray light between 0.4 and 1.6 degrees from the sun. In searching for temporal variations in the F-corona, measurements were confined to the solar polar regions to minimize the effects of the K-coronal component. Changes in instrumental stray light were eliminated by restricting measurements to a single region within the instruments' field of view. The largest source of error is the photometric calibration of the individual rolls of film. Frames were specifically selected to encompass periods of time ranging from a few days to eight months. Generally no variation in the total radiance greater than three percent was detected for intervals on the order of a few weeks. This level of stability holds for most of the eight-month period, excepting a few instances when deviations of up to eight percent were observed where the calibration is most uncertain. A preliminary study of the asymmetry in the F-corona close to the sun and the possible effect of solar eruptions (e.g., flares and prominences) upon the F-corona will be discussed.