Solar Wind Speed Structure in the Inner Corona at 3-121 <()

R Woo (Jet Propulsion laboratory, California institute of Technology, Pasadena, CA 91 109; tel. 818-354-3945; c-mail: richard@oberon.jpl.nasa.gov)

Estimates of solar wind speed obtained by Armstrong et al. [1986] based on 1983 VLA multiple-station intensity scintillation measurements inside 12 R_O have been compared with white light coronagraph measurements. The observed large- scale and apparently systematic speed variations arc found to depend primarily on changes in heliographic latitude and longitude, which leads to the first resultson large-scale speed structure in the acceleration region of the solar wind. Over an equatorial hole, solar wind speed is relatively steady, with peak-to-peak variations of 50 km/s and an average of 230 km/s. in contrast, the near-Sun flow speed across the streamer belt shows large-scale variations in the range of 100-300 km/s. Based on four groups of data, the gradient is 36 km/s per degree in heliocentric coordinates (corresponding to a rise of 260 km/s over a spatial distance on the Sun of two arcmin) and its standard deviation is 2.4 km/s per degree. The lowest speeds most likely coincide with the stalks of coronal streamers observed in white-light measurements. The detection of significant wind shear over the streamer belt is consistent with *in situ* and scintillation measurements showing that the density spectrum has a power law form characteristic of fully developed turbulence over a much broader range of scales than in neighboring regions.

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3. (a) Richard Woo
   MS 238-737
   Jet Propulsion Laboratory
   4800 Oak Grove Drive
   l'asadcna,CA911 09

   (b) Tel: (8 18) 354-3945

   (c) fax: (818) 354-2825

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   (b) 2164 Solar wind plasma
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