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Solar Wind Trends in the Current Solar Cycle (STEREO Observations)

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We examine solar wind ion characteristics for the current solar cycle, utilizing near-Earth (OMNI) and STEREO data. Sources of the solar wind are known to be linked to the phase of the solar cycle and include coronal holes, coronal mass ejections, and multiple cycle-dependent sources for the so-called “slow” solar wind. This past solar minimum was characterized by weak transients and sustained periods of slow solar wind, and included cases of “slow” and “slower” solar wind stream interactions. In contrast, intervals around solar maximum have included extremely fast interplanetary coronal mass ejections, with one such ICME observed in situ by STEREO A exceeding 2000 km/s at 1 AU. We will look at specific case studies of solar wind observed in situ by STEREO, particularly for solar wind proton and iron ions.