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**The Mysteries Associated with the Acceleration of Energetic Particles at the Termination Shock of the Solar Wind**  
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The Voyager 1 spacecraft has crossed the Termination Shock of the solar wind, a long-awaited goal in the exploration of the outer heliosphere. There were great expectations for the Termination Shock as the site for the acceleration of Anomalous Cosmic Rays (ACRs), presumably by diffusive shock acceleration. ACRs result from interstellar neutral gas that is ionized and accelerated in the solar wind, by over four orders of magnitude in energy. In fact, the intensity of the ACRs did not peak at the shock crossing seen by Voyager. Low-energy energetic ions ( $<3$  MeV/nucleon) are abruptly accelerated at the Termination Shock, but these particles have the unusual feature that their spectral shape is constant, independent of the change in flow speed at the shock, unlike the predictions of diffusive shock acceleration. Observational constraints on theories for particle acceleration at the Termination Shock will be reviewed and a possible theory for the acceleration of the low-energy energetic ions will be discussed.