

“Faltering Steps into the Galaxy”

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Voyager 1 has now entered the interstellar medium, a moment of great historical import. We describe the Voyager 1 magnetic field and energetic particle observations, the initial uncertainty surrounding a possible crossing of the heliopause, and the eventual clarification by the Plasma Waves Analyzer. The interaction of the solar wind and the interstellar medium is complicated by the presence of neutral hydrogen that is coupled via charge exchange to the plasma. We present the current status of theory, models, and simulations, describing the highly non-equilibrated interaction and the underlying physics. We conclude by discussing briefly related interactions of stellar winds with their local environments.