

**Proton Cyclotron Waves at 1AU: ISEE-3**

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Proton cyclotron waves have been detected in the high resolution magnetic field data from ISEE-3 (1 AU from the Sun). At the present time, the source of the pickup ions is uncertain. Possibilities are: hydrogen from the Earth, neutrals associated with solar coronal mass ejections or interstellar neutrals. We will examine the wave amplitude and frequency of occurrence dependence on the spacecraft radial distance from the Earth just after the launch and the ISEE-Sun-interstellar source longitudinal angle to attempt to resolve these questions.

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