

## **Diffusion Processes at the Magnetopause: POLAR Waves**

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Cross-field diffusion of magnetosheath plasma occurs through resonant interactions with magnetopause boundary layer plasma waves. The formulation for this physical process will be developed and applied for the magnetopauses of the Earth and Jupiter. Similar physical processes may occur at all planetary magnetospheres. The consequences of the waves for polar aurora will be discussed. POLAR plasma wave data will be used to determine the local time dependences, the interplanetary control, and the exact nature of the waves.