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# Model of KAW contribution to cross-magnetopause ion transport

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Magnetosheath ion transport across the night-side magnetopause can be contributed by ion cross-field diffusion due to wave-particle scattering. In this presentation we focus on such scattering mechanism for the most intense magnetosheath wave emission, kinetic Alfven waves (KAWs). These waves carry a finite field-aligned electric field and potentially can accelerate particles along magnetic field lines. In the fast plasma flows these waves are usually observed as a wide Doppler-shifted electromagnetic spectrum characterized by strong electric fields in high wave-number range. Dense frequency spectrum leads to overlapping of particles resonances with waves and causes particle diffusion in pitch-angle and energy space. We investigate particles diffusion caused by interactions with KAW turbulence in a realistic model of the Earth flank magnetopause with nonuniform ambient magnetic field fitting the tangential discontinuity. The KAW spectrum is determined by a sum of a several thousand plane waves with different frequencies and propagation angles. We estimate diffusion coefficients as function of ion pitch-angle and energy for different distances from the magnetopause and discuss the expected cross-field transport rate for this model.