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Asymmetric magnetic reconnection in a magnetopause-like topology

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Magnetic reconnection within realistic magnetopause-like topology is invastigated using two dimensional hybrid numerical code. Modeling in-situ observations, we set up a tangential discontinuity where both the temperature and the magnetic field profiles are initialy prescribed, the density profile being set via the equilibrium condition. Fixing asymptotic initial quantities in the magnetosheath and magnetosphere we perform simulations in a global antiparallel magnetic geometry. A local magnetic amplitude drop at the magnetopause is modeled via an adjustable guide field. While previous studies of reconnection mainly focus on simple configurations, the aim of this work is to understand the impact of the magnetopause environmental conditions on the development of fast magnetic reconnection. Different cases are investigated, considering both the strength of the gradients and their relative positions within the discontinuity, and allowing possible parallel/perpendicular anisotropies.