

3D global simulations of disk-planet interactions with magnetic winds

Gaylor Wafflard-Fernandez, Geoffroy Lesur
Univ. Grenoble Alpes, CNRS, IPAG, 38000 Grenoble, France
ERC MHDiscs

`gaylor.wafflard@univ-grenoble-alpes.fr`

Models of planet-disk interaction are classically based on hydrodynamic simulations in which accretion is turbulent and prescribed via an alpha parameter. Recently, both theoretical and observational constraints have encouraged the study of magnetic winds as an alternative accretion paradigm, in particular to account for the low turbulence expected in the outer regions of protoplanetary disks. We consider here the joint impact of a giant protoplanet and a magnetized disk, via global non-ideal MHD simulations performed with the GPU-accelerated IDEFIX code. From radially asymmetric gaps to CO kinematics and planetary migration properties, I will illustrate some of the typical features of planet-disk-wind interaction models.