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Magnetic turbulence in inner radii of protoplanetary disks

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In protoplanetary disks, magnetic turbulence driven by MRI is generally suppressed by non-ideal MHD effects due to low ionization fractions. However, thermal ionization may revive ideal MHD in inner radii. To see the effects of thermal ionization, it is crucial to obtain temperatures correctly. For that purpose, we utilize radiation MHD shearing box simulations employing realistic EOS and opacities. In this paper, we present preliminary results of the simulations to discuss magnetic turbulence in inner radii of protoplanetary disks, including possibilities for thermal ionization instability to drive FU Ori outbursts.

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