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Disk winds driven by MRI –some aspects and applications–

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Magnetorotational instability is supposed to play a role in not only transporting the angular momentum in protoplanetary disks but also driving disk disk winds. However, detailed properties of the disk winds are not well understood. In this talk, starting from the result of our ideal MHD simulations for MRI-driven vertical outflows in a local shearing box, we discuss how the mass loss rate and time dependency of the outflow are modified when we include (i) dead zones with resistive MHD simulations in the local shearing box and (ii) large-scale flows with global simulations in spherical coordinates. We would also like to introduce the mass accretion and the transport of large-scale magnetic fields observed in the global simulations, in connection with the disk winds.

Author: Dr SUZUKI, Takeru (Department of Physics, Nagoya University)

Co-author: Prof. INUTSUKA, Shu-ichiro (Nagoya University)

Presenter: Dr SUZUKI, Takeru (Department of Physics, Nagoya University)

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