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## Radiation effects on jets and disks in the MAD state

I will discuss recent results of the radiation effect on magnetically-arrested disks (MAD) around rotating black holes and the resulting jets, obtained using the general-relativistic radiative magneto-hydrodynamic (GR-R-MHD) code cuHARM. I will show that (i) The jet width, MAD parameter and jet efficiency increase with the accretion rate, before saturation caused by gas-pressure to magnetically supported disk ; (ii) at high accretion rates, magnetic field pressure plays an important role in stabilizing the disk. (iii) At higher accretion rates, more angular momentum is transferred through radiation. Finally, (iv) I will discuss possible mechanism for entraining the jet with external particles, via the Kelvin-Helmholtz instability.

### Contribution

Oral talk

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