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UNIVERSIDAD DEL VALLE
Departamento de Física &
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Astrophysical Accretion Flows: A Numerical Overview

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Abstract:

Current research include advances in the theoretical and computational studies of accretion disk, jets and outflows: the connection between accretion and jets, the launch of jets from magnetized disks, the coupled evolution of jets and disks, the interaction of magnetized young stellar objects with their surrounding disks and the relevance to outflows, and finally, the link between jet formation and gravitational collapse. The X-ray binaries are perfect laboratories. In this talk I present results from numerical simulations of accretion disk and astrophysical jets performed with a powerful numerical tool. I show the rich hydrodynamical structure and turbulence in the jet-like scenario and the effect of viscosity in the accretion thin disk dynamics.

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