

# What does it take to launch jets from accretion discs?

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## Abstract

Well collimated jets are observed from young forming stars, active galactic nuclei and some galactic compact objects. These jets are powerful in the sense that they seem to carry a sizable fraction of the power released in the underlying accretion disc. The most reliable models relate therefore accretion to ejection, through the action of large scale magnetic fields anchored in the rotating disc (and maybe in the central object as well).

In this talk, I will first recall the successes (and open issues) of these MHD models. Some emphasis will be put on the comparison with observations of jets from young stars. Indeed, these jets are well monitored, with several diagnostics and their observed kinematics put stringent constraints on jet models.

On the other hand, other astrophysical systems such as X-ray binaries display a complex behavior in time that remains unexplained yet. I will then briefly present these systems and argue that their complexity could be the sign of the interplay between field diffusion and advection within the outbursting disc.