

SEMINAR ANNOUNCEMENT

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COSMIC RAYS IN THE INTERSTELLAR MEDIUM

Date: 22. May 2023

Room: NB 7 / 67

Time: 4pm (s.t.)

Abstract

Cosmic rays are accelerated in supernova explosions and other high energy astrophysical environments. These particles eventually join the interstellar medium (ISM), feeding a cosmic ray background with as much energy density as the thermal gas component of the ISM. How does this cosmic ray component change the ISM on galactic length scales (pc) and time scales (Myr)? I will present two ways. First, using cosmic ray magnetohydrodynamic simulations, I show cosmic ray injections by supernovae can launch an outflow from a galactic disk. The outflow's characteristics change as a function of cosmic ray transport and the ISM's properties. Second, I will show preliminary results from simulations of cosmic ray modified turbulence. These results show how cosmic rays can adjust the distribution of energy in the ISM and modify the characteristic structure of the ISM.