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# The effect of cosmic rays on momentum injection, wind driving and star formation

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## Abstract

Cosmic rays have several properties which make them a promising candidate for driving galactic winds in dwarf galaxies, especially if it is the case that classical supernova feedback fails at generating outflows with mass loading factors exceeding unity. Since the cosmic ray fluid is coupled via magnetic fields to the thermal components, the cosmic ray pressure gradient helps to lift thermal gas out of galactic discs. As an ultra-relativistic fluid, it has a softer equation of state. Cosmic rays have the ability to stream and diffuse relative to the gas from dense regions with high radiative cooling rate to more diffuse regions. I will present work in progress with idealized simulations on the two following topics:

1. The boost of the momentum deposition from supernovae in the interstellar medium due to cosmic ray acceleration.
2. The effect of cosmic ray injection on wind driving and star formation in low mass galaxies.

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