
JASON LOEPPKY, University of British Columbia

Comparing Simulated Emission from Molecular Clouds using Gaussian Process Regression

The process of star formation is the fundamental agent at determining how a galaxy evolves over the course of the Universe. Decades of observation of star-forming regions suggest that several different physical effects shape the star formation process: gravitation, magnetism, chemistry, and radiation. However, it is not understood exactly how these effects shape the star formation process. Large-scale, multi-physics computer simulations are routinely used to model the process of star formation. The simulations are computationally expensive and produce a three dimensional model that can only be compared statistically to observations. In this talk we will explore the use of a GP regression as a tool for providing a sensitivity analysis of various metrics used to compare astronomical data sets.