Astrophysics Seminar

TUESDAY

DECEMBER 1

12:30 P.M.

RM 184 NSH

Using Statistical Tools in Chemical Evolution Models

Dr. Benoit Cote
Michigan State University

Chemical evolution is a broad area covering many scales from stellar interiors to the intergalactic medium. By reproducing observational data, simulations and models are probing different physical processes responsible for the production and the spatial dispersion of chemical elements. However, it is important to be careful about the conclusions extracted from numerical predictions, as they might contain many uncertainties. Using a simple galactic chemical evolution model, I will present how statistical tools, such as Monte Carlo and Markov Chains, can help in deriving the uncertainties and the levels of confidence in numerical predictions. In particular, I will focus on the impact of uncertainties in the measurement of input parameters, the impact of using different modeling assumptions, and how to deal with free parameters.