



The Math/Stats Colloquium
Department of Mathematics and Statistics
San José State University



Stuart Pilorz
SETI Institute

*Radiative Transfer in the Uncharted Wilds
Between Asymptotic Regimes*

APRIL 9, 2014, MH320

Abstract: We'll discuss the modeling of radiative transport (RT) within Saturn's rings, which are not amenable to standard treatments. A short review will be given of the rings' structure and the planetary community's efforts to model them, after which we present a computationally intensive radiosity algorithm we're developing to better understand the thermal properties of individual ring particles. The core of the method is a simple implicit formulation for multiple scattering within the ring medium, representable as a matrix multiplication. (That might not be so interesting, except that the matrix is very big...)

Background: Acquaintance with differential equations, linear algebra and basic statistics. No physics required.

About the speaker: Stuart Pilorz received his D.Phil. in astrophysics from Oxford University. He has spent two decades at JPL working as an applied mathematician in fields from oceanography to galaxy evolution, and is currently at the SETI Institute in Mountain View, where he is affiliated with the Cassini Saturn orbiter.

SNACKS IN MH331B AT 2:30 PM

TALKS START AT 3 PM

For more information, see our full schedule at:

<http://www.math.sjsu.edu/~hsu/colloq/>