



SEMINAR NOTICE

*Department of Physics and Engineering Physics
University of Saskatchewan*

SPEAKER: Landon Rieger, PhD Candidate
Physics & Engineering Physics

TOPIC: *Updating the stratospheric aerosol using limb-scattering measurements*

DATE: October 31st, 2017

TIME: 3:30-4:30 p.m.

PLACE: Physics 103

ABSTRACT:

Stratospheric aerosols play an important role in Earth's radiative balance, scattering away incoming light and causing a general cooling effect, while also influencing ozone chemistry, cloud formation and vegetation growth. Until 2005, stratospheric aerosols were predominantly measured by satellite-borne occultation instruments; providing accurate records of global aerosol levels that were used as important inputs to climate models. However, in the early 2000's, occultation instruments were largely replaced with limb scattering instruments. These provide much better spatial and temporal coverage, but use a more complex measurement technique, and as such were often included in climate records in an inconsistent fashion. Coincidentally, this period also marked a transition from a stratospheric aerosol layer dominated by the occasional large volcanic eruption to one periodically enhanced by much smaller eruptions. This simultaneous change in measurement technique and aerosol loading lead to discontinuities in the aerosol record and has necessitated an improved long-term climatology that incorporates both occultation and limb-scatter measurements. This work merges aerosol measurements from the occultation satellite SAGE II and the limb scatter instrument OSIRIS, and explores how limb scatter measurements of stratospheric aerosol can be improved for future use.

Coffee and Cookies will be served in Physics lounge at 3:00 p.m. for those attending the seminar.