**Idaho State University
Physics Colloquium**
***Burning Bright: Exploring Be Stars and their Mysteries from our Campus Observatory***

James Dull
College of Idaho

Be stars are a fascinating class of hot, blue-white B-type stars that

exhibit strong hydrogen emission lines in their spectra, most notably

from the Balmer series. These lines originate from circumstellar gas

disks formed through rapid rotation and mass ejection. The spectral

profiles of Be stars vary in shape, many show strong double-peaked

emission lines, a feature associated with a rotating disk viewed at an

angle, while others may display narrow absorption features or appear nearly featureless depending on viewing orientation and disk behavior.

In this project, we compare the spectral profiles of several Be stars

to explore how the shape and structure of these lines reflect

differences in disk geometry, orientation, and physical conditions. We

aim to better understand the diversity of structures within the Be star

population by examining multiple stars side by side. This work is an

early step in understanding the environments of Be stars through their spectral features.

 **Monday, September 8 2025
4:00 – 4:50 pm**