

Department of Physics and Astronomy Colloquium Series

Tuesday, February 6, 2024 at 2:30pm in PSE 317

Speaker: Hyunseop Choi

Institution: Université de Montréal

Title: Unveiling the Physics of Black Hole Winds with Broad Absorption Line Quasars

Abstract:

Broad absorption line (BAL) quasars show clear evidence of powerful winds from central supermassive black holes. These winds play a pivotal role in determining the growth and evolution of their host galaxies, central black holes, and the surrounding medium.

Although BAL quasars are considered prime targets for studying the black hole winds, their properties have been shrouded in mystery due to the difficulty in analyzing their data.

In this talk, I will introduce SimBAL, a novel spectral synthesis software for analyzing BAL quasar spectra our group has developed. It has allowed us to conduct a detailed spectral analysis of a large sample of BAL quasars for the first time. I will demonstrate SimBAL's unique strengths by discussing the results from several projects and how our group has taken a systemic approach to investigate the physics of black hole winds.