



Department of Physics and Astronomy
SPRING 2026 Colloquium Series

“Determining Kilonova Light Curves from Heavy Element Synthesis”

Alex Steensland

Sac State Physics Major Senior Project Talk

Stars, and the nuclear fusion at their cores, are responsible for the formation of most matter. Elements with heavier nuclei, however, output less energy than is produced by their fusion and therefore can't be produced in the cores of stars. The mechanisms for the formation for these so-called "heavy elements" can only exist in the universe's most extreme conditions. I will describe and analyze the predictions of neutron star merger models which simulate the formation of these heavy elements. Differences among these theoretical models are derived from key changes in their formulation, changes which are valuable in determining the behavior and output of real neutron stars.

Thursday, May 14, 2026

4:00 - 5:20PM

MND1015

Open & Free to all students, faculty and public