

SAN DIEGO STATE UNIVERSITY DEPARTMENT OF PHYSICS AND DEPARTMENT OF
ASTRONOMY COLLOQUIUM

Speaker: Dr. Breanna Binder -- University of Washington

Topic: The Supernova Impostor SN 2010da

Time: 3:00 PM, Friday, September 18, 2015 (refreshments served at 2:45 PM)

Place: Room 215, Physics-Astronomy Building (PA-215)

Abstract:

Supernova impostors are optical transients that, despite being incorrectly assigned a supernova designation, do not signal the death of a massive star or an accreting white dwarf. Instead, most impostors are likely to be the result of a major eruption from a massive star. Although the physical cause of these eruptions is still debated, tidal interactions from a binary companion has recently gained traction as a possible explanation for observations of some supernova impostors. In this talk, I will discuss the particularly interesting impostor SN 2010da, which is (so far) unique among this class of objects due to its high-luminosity, variable X-ray emission. The X-ray emission is consistent with accretion onto a neutron star, making SN 2010da both a supernova impostor and likely high mass X-ray binary. SN 2010da is a unique laboratory for understanding how binary interactions can drive massive star eruptions, and for studying evolutionary channels in massive binaries.