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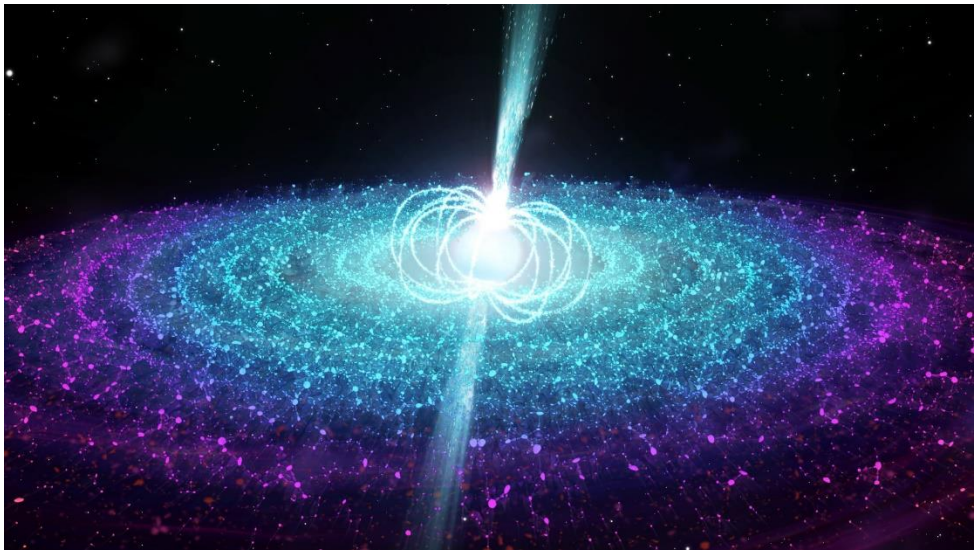

Dr. Kyle Watters
California State University, Sacramento

Neutron Stars: Indisputably the Most Interesting Objects in the Universe

Abstract

Humanity has always been drawn to explore the extremes of the natural world around us - the tallest mountains, the darkest jungles, the deepest oceans. Space exploration is the obvious continuation of this drive, and it's hard not to persist in our quest for the extremes - the hottest stars, the biggest galaxies, the oldest clusters. This talk will explore neutron stars, home to arguably the most extreme stellar environments in the universe.

Left behind after the supernova explosion of a massive star, a neutron star is the tiny, dense smoldering core of a once enormous object. These incredible objects host magnetic and gravitational field strengths so high that our standard understandings do not apply. They rotate so fast that any normal star would be torn apart by centrifugal forces. Young neutron stars (called pulsars) are known to emit radiation across the entire electromagnetic spectrum, from radio waves to gamma rays. I will discuss the observational history of these objects, ongoing projects to study them, what we have already learned, and what still remains a mystery after several decades of research.

3:30-4:30 p.m., Friday, November 16th, McLane Hall 162