

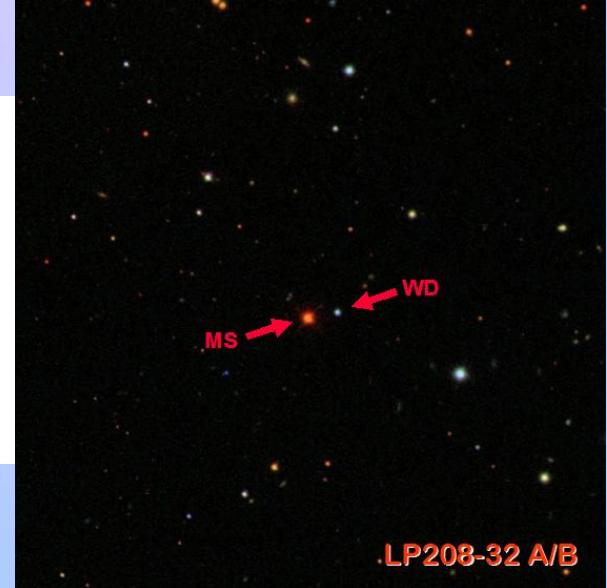


PHYSICS & ASTRONOMY COLLOQUIUM
UNIVERSITY OF WISCONSIN – STEVENS POINT

FRIDAY, MARCH 8, 2013

2:00 PM

Room A109 SCI



Sloan Digital Sky Survey of the fragile binary LP208-32 A/B. The blue star is a dead star called a white dwarf; the red star is a normal hydrogen-burning star somewhat cooler and lower in mass than our Sun.

Dr. TERRY D. OSWALT- Harlow Shapley Lecturer

Florida Institute of Technology

Fragile Binary Stars: Observational Leverage on Difficult Astrophysical Problems

ABSTRACT: Loosely bound, “fragile” binary stars are like star clusters with two components of the same age and original composition. They provide a largely overlooked avenue for the investigation of many astrophysical questions. For example, their orbital characteristics provide limits on the cumulative effects of the Galactic environment. In older pairs, orbits have been amplified by post-main-sequence mass loss, potentially providing useful constraints on the initial-to-final mass relation for white dwarfs. The nearly featureless spectrum of a white dwarf usually provides little information about its radial velocity, space motion, population membership, or chemical abundance. However, a distant main sequence companion provides a benchmark against which those properties can be determined. Conversely, the cooling age of a white dwarf provides a useful limit on the age of a distant main sequence companion, independent of other stellar age determination methods. This talk will summarize how fragile binaries provide useful leverage on these and other problems of interest.

Dr. Terry D. Oswalt is the founding chairman of the Southeast Association for Research in Astronomy and is the Head of the Physics and Space Sciences Department at Florida Institute of Technology. He has written almost 200 scientific articles, edited three astronomy books, and is currently editing a six-volume series titled “Planets, Stars & Stellar Systems,” which will be released in January 2013.

Dr. Oswalt’s visit to our campus is financially supported by the American Astronomical Society through the Harlow Shapley Lectureship Program, by the College of Letters and Science of the University of Wisconsin – Stevens Point through an Enhancement Grant, and by the Department of Physics & Astronomy at UWSP.

Faculty, staff and students are cordially invited to attend.

Refreshments will be served beginning at 1:45 pm.