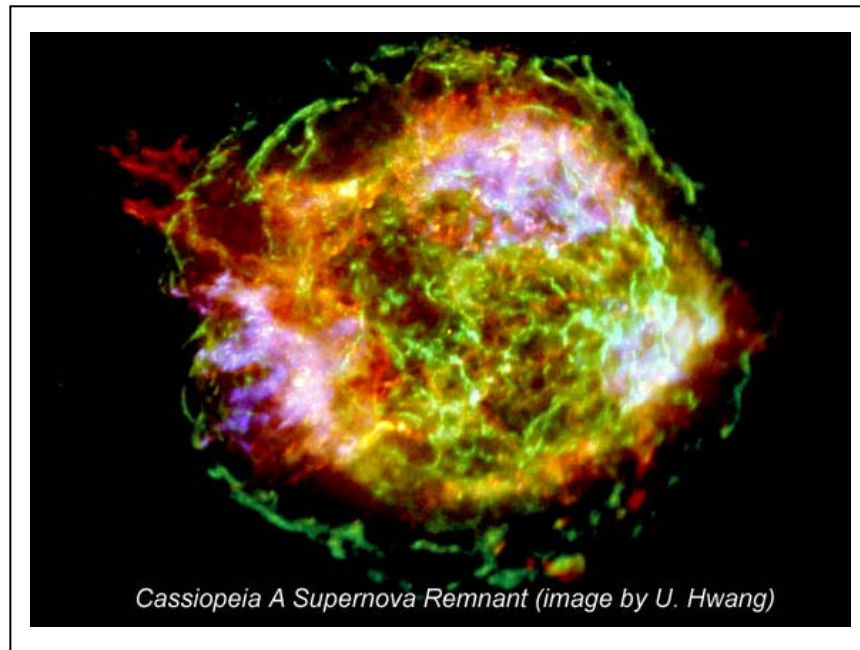


THE GEORGE WASHINGTON UNIVERSITY
Department of Physics
Colloquium

How Did Cassiopeia-A Explode?
A Chandra Very Large Project

Dr. Martin Laming, Naval Research Laboratory



In April-May of 2004, the Chandra X-ray Satellite observed the Cassiopeia-A supernova remnant for a total of 1 million seconds (a Chandra VLP; Very Large Project). The resulting deep exposure allows us to extract spectra of high signal/noise from small spatial regions of the remnant, exploiting the unprecedented angular resolution of the Chandra mirrors to the full. I will describe how this, combined with a novel modeling approach, allows us to make quantitative inferences about the elemental composition in the remnant, and its spatial distribution, in order to compare with predictions of nucleosynthesis for core-collapse supernovae. Time permitting, I will also touch on other features of the supernova remnant; the jets and the natal kick imparted to the compact central object, in an attempt to build a more complete picture of the supernova explosion and its relationship to more recently observed core-collapse supernovae.

TIME: 4:00-4:50 pm, Thursday the 16th of April 2009

PLACE: 101 Corcoran Hall, GWU

725 21st Street, N.W. (Between G and H Streets)

METRO STATION: GWU/FOGGY BOTTOM (BLUE & ORANGE LINES)