



Département d'Astrophysique

Séminaires du DAp

Mardi 18/09/2012, 14:00

Bat 713, salle de séminaires Galilée , CEA Saclay, Orme des Merisiers

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**FINAL FATES OF SUPER-CHANDRASEKHAR MASS WHITE
DWARFS AND THEIR COMPANIONS IN TYPE IA SUPERNOVA
PROGENITOR SYSTEMS**

ATTENTION JOUR ET HEURE INHABITUELS

Type Ia supernovae (SNe Ia) have been used as "standard candles", which has led to the discovery of the accelerated expansion of the Universe. SNe Ia are also important producer of iron group elements in the Universe. It has been widely accepted that SNe Ia are thermonuclear explosions of mass accreting white dwarfs (WDs) in binary systems. However, the nature of the WD's companion stars have not been clarified. Recent observations of some nearby SNe Ia and the remnants have found no indication of the companion stars ("missing companion problem"). I will show that the mass accreting WDs are inevitably rotating and their masses somewhat exceed the Chandrasekhar limit at the explosion, and how such super-Chandrasekhar mass model can solve the missing companion problem.

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