

SÉMINAIRE

Lundi 20 novembre 2006 à 15h00

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*Proof of dark matter existence and other results
from a collision of galaxy clusters*

Collisions of galaxy clusters are unique experiments that nature stages for us to study the properties of normal and dark matter that are inaccessible by other means. I will review recent results obtained using the merging cluster 1E0657-56. A combination of a long Chandra X-ray observation with accurate weak and strong gravitational lensing maps has provided the first direct, model-independent proof of the dark matter existence (as opposed to the modified gravity paradigm), and a direct constraint on self-interaction cross-section of the dark matter particles. This cluster also exhibits a rare example of a shock front in the intergalactic gas. Its X-ray observations can be used for interesting physical tests, such as determining the electron-ion equilibration timescale in magnetized astrophysical plasmas.

Salle André Berthelot, bât. 141

Le café sera servi 15 minutes avant

NB : La présentation d'une carte d'identité ou d'un passeport est exigée à l'entrée du centre. Tous les auditeurs extérieurs sont priés de prévenir à l'avance de leur visite Laure Reuter, tél. 01 69 08 23 50 (U.E. : délai de 24h, hors U.E. : délai de 4 jours).