Irfu
Institut de recherche
sur les lois fondamentales
de l'Univers

Séminaire SPP

Lundi 12/12/2016, 11h00

CEA-Saclay Bât. 141, salle André Berthelot

The first Gaia data release

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Gaia is an ESA astrometric mission launched end of 2013. After its five years of observations, it will provide unprecedented astrometry (parallaxes and proper motions) for more than 1 billion stars brighter than G=20.7 mag. It will also provide spectrophotometry for all those stars and radial velocities for the brightest onces. By providing 3D spatial and velocity distributions of the stars combined with their astrophysical properties, Gaia will revolutionize our knowledge of the Milky Way and of stellar evolution. But it will also observe solar system objects, local group resolved stars, unresolved galaxies, quasars and will allow to perform relativistic tests. I will present the first preliminary Gaia data release obtained from the first 14 months of the mission. Gaia DR1 consists of three parts : 1) position and mean G-band magnitudes for 1.1 billion sources 2) positions, parallaxes, mean proper motions for about 2 million of the brightest stars in common with the Hipparcos and Tycho-2 catalogues 3) G-band light curves and the characteristics of ?3000 Cepheid and RR-Lyrae stars observed at high cadence around the south ecliptic pole. I will describe the contents of this catalogue and highlight the limitations of this preliminary release to take into account for an optimal scientific exploitation of those data. The exploitation of those data already started ranging from Milky Way and stellar evolution science to surveys astrometric and photometric calibrations.

Le café sera servi 10 minutes avant.

NB : La présentation d'une pièce d'identité est exigée à l'entrée du centre. Tous les auditeurs extérieurs sont priés de prévenir à l'avance Martine Oger, tél. 01 69 08 23 50, e-mail : `martine.oger@cea.fr`. (U.E. : délai de 24 h, hors U.E. : délai de 4 jours).