Cosmology with Gamma-Ray Bursts

Lorenzo Amati (INAF-IASF, Bologna) bo predaval o kozmologiji z izbruhi sevanja gama v **tore k** ,
29. 5. 2012,
ob 14h v predavalnici F5 na FMF
, Jadranska 19, Ljubljana. (Pozor:
sprememba dneva, ure in predavalnice
!). Vabljeni!

Prejšnja predavanja so na razpolago na spletni strani Astrodebate . Predavanje bo v angleščini!

Povzetek predavanja:

Given their huge isotropic-equivalent luminosities, up to more than 10^{54} erg/s, and their redshift distribution extending up tomo re than z=8, Gamma-Ray Bursts (GRB) are in principle a powerful tool for measuring the geometry and expansion rate of the Universe. However, they are not standard candles, given that their luminosities span several orders of magnitude, even when considering possible collimation angles.

In the recent years, several attempts to exploit the correlation between the photon energy at which the νF_ν spectrum peaks ("peak energy") and the radiated energy (or luminosity) for "standardizing" GRBs and using them as tools, complementary toother probes like SN Ia, BAO and the CMB, for the estimate of cosmological parameters have been made. These studies show that already with the present data GRBs can provide a significant and independent confirmation of $\Omega_M \sim 0.3$ for a flat ΛCDM universe and that the measurements expected from present and next GRB experiments (e.g. Swift, Fermi/GBM, SVOM) will allow us to constrain Ω_M, Ω_Λ and, in particular, to get clues on dark energy properties and evolution.