

---

## KOLOKVIJ FIZIČKOG ODSJEKA

---

Vrijeme: utorak, 24. 04. 2007., 14:15 sati (točno)

Mjesto: Fizički odsjek, Bijenička c. 32, predavaonica F08

### OUR GALACTIC NEIGHBOURHOOD - A MELTING POT OF MIGRATION

Prof. Birgitta Nordström  
Niels Bohr Institute, Copenhagen University,  
Copenhagen, Denmark

Spiral galaxies are an important part of the visible Universe. In the prototype, our own Milky Way, we can observe the most important component of a spiral galaxy - the disk - in unprecedented detail. In the Solar neighbourhood we can determine the numbers, ages, detailed chemical compositions, and galactic orbits of stars from the entire history of the disk with a completeness and accuracy not available anywhere else in the Universe. Therefore, the solar neighbourhood is a fundamental benchmark for all models of the evolution of galaxy disks.

The Geneva-Copenhagen Survey (Nordström et al. 2004) has full spatial, kinematic, metallicity and age information for 14,000 long-lived stars and provides a rich source of data for tests of models of evolution and formation of the Galaxy. We find that classical evolution models for the Galactic disk fail several of the standard tests related to the stellar metallicity distribution, age-metallicity relation, and age-velocity relation. Both dynamical and kinematic evolution need to be taken into account in sufficient detail by the models to match the best data. A search for signatures of past accretion events in the Milky Way (Helmi et al. 2006) has yielded evidence of ancient substructure in the Galactic Disk.

Voditelj seminara i kolokvija FO  
Hrvoje Buljan, [hbuljan@phy.hr](mailto:hbuljan@phy.hr)