

Kinematics and metallicity relations for dwarf galaxies in the Local Group

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Current theories of hierarchical structure formation predict that small galaxies are the building blocks of larger ones. Therefore dwarf galaxies are arguably the surviving remnants of this process. A detailed dynamical and chemical study of individual stars in nearby systems is thus an important step to accurately model the evolutionary history of all galaxies and the contribution of small galaxies to the assembly of larger galaxies. As part of the DART project we have used FLAMES at the VLT to obtain intermediate resolution spectra in the Calcium triplet region for hundreds of stars out to several core radii for a representative sample of dwarf spheroidal galaxies around the Milky Way. In addition to accurate kinematic information, we determine $[Fe/H]$ for each observed star using the equivalent widths of the CaII triplet lines. The large number of stars observed in each galaxy enables us to derive how the kinematics and metallicity of these galaxies change with radius and age and to search for possible links between them.

*BDMH 2004 – Baryons in Dark Matter Halos
5–9 October 2004
Novigrad (Croatia)*

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