The Role of the Disk-Halo Interaction in Galaxy Evolution: Outflow vs. Infall?
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Preface

For long the disk-halo connection was considered a local phenomenon resulting from ongoing events in a galaxy's disk. However, over the years evidence has built up to suggest that accretion of matter by a galaxy may also play an important role.

Observations have improved in their spatial and spectral resolution, while on the theoretical side, numerical models have become more advanced and realistic. This improvement has been possible by the adoption of sophisticated numerical methods, the increase in computing power and the availability of multi-core CPUs and graphics processor units to carry out simulations. We are now able to investigate the various processes that regulate the disk-halo connection in the Milky Way and external galaxies at different redshift in a systematic and an in-depth manner.

The major goal of the meeting was to stimulate an intense discussion between observers and theoreticians/modellers on the different processes related to the interaction between disks and halos in galaxies. Fundamental issues (the structure of the interstellar medium, the connection between the disk and halo, and the role of infall *vs.* outflow in the galaxy evolution) have been addressed with an eye on realistic modeling of such a phenomenon.

Participants coming from different parts of the world gathered in Espinho for five long days of talks and discussions. The local organization was carried out perfectly by the Multimeios staff under the leadership of Dr. Antonio Pedrosa (the head of the Planetarium). The meeting organization was only possible with the funding from the European Science Foundation under the ASTROSIM program.

A few weeks after the meeting Jörn Rossa was diagnosed with cancer that he fought for almost a year, passing away in September, 2009. A loss that was a shock to all of us. This book is dedicated to his memory.

Berlin, May 2012 Miguel de Avillez

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