The video and slide of previous colloquia and more information can be found in “events” at http://gcosmo.bao.ac.cn/. You are welcome to nominate speakers to colloquium@nao.cas.cn.

国台学术报告 NAOC COLLOQUIUM

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Time: Wednesday 2:30 PM, Mar. 19 Location: A601 NAOC

Formation of Rings of Satellites in the Local Group and Elsewhere

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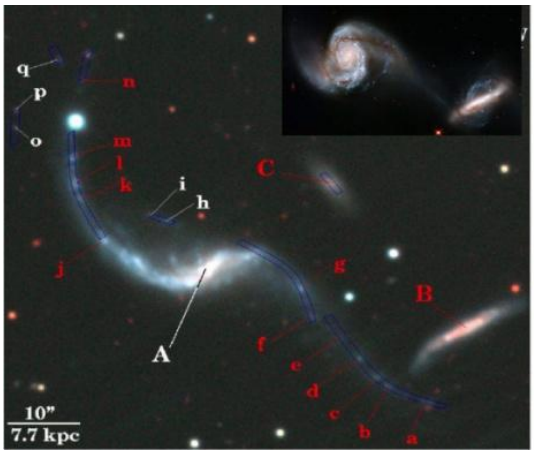
Dr. Hongsheng Zhao is an astronomer at Univ. of St. Andrews, School of Physics and Astronomy. Before that he was at Institute of Astronomy, Cambridge. His research includes dynamics and lensing of dark matter halo, theories of dark energy and modified gravity.

Abstract



We interpret the formation of the Local Group and its satellites in the context of interacting gas-rich galaxies. Although enormous advances have been made in the techniques of N-body and hydrodynamic simulations for galaxy formation in recent years, we are unable to explain a number of important galaxy properties, e.g., the Baryonic Tully-Fisher relation and satellites of disk galaxies in phase-correlated ring-like giant structures, such as the baryonic lumps along the "Dentist-Chair” disk galaxy pair. Polar rings of high M/L dwarf-galaxy satellites are often observed extragalactically and locally, but are almost impossible to form in a merger as tidal arms of the hypothesized CDM haloes, where baryonic cooling and collapse lead to satellites of normal M/L. This leads Zhao, Famaey, Lughausen, Kroupa (A&A, 2013) to propose that such rings are evidences of frictionless fly-bys of disk galaxies in Modified Gravity theories, which naturally explain the high dynamical M/L of resulting satellites. An example of the application of the above competing arguments is the rings of satellites in the Local Group, and further directions for observations and modeling are proposed.

All are welcome! Tea, coffee, biscuits will be served at 2:15 P.M.