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Extracting science from surveys of our Galaxy



Prof. James Binney (Oxford University)

James Binney is a Professor of Physics at the University of Oxford, where he is head of the Sub-Department of Theoretical Physics as well as a Professorial Fellow at Merton College. Binney is known principally for his work in theoretical galactic and extragalactic astrophysics, but he has made a number of contributions to areas outside of astrophysics as well. He has a BA from Cambridge University and a DPhil degree from Oxford University. He was a visiting scholar at the Institute for Advanced Study in 1983-87 and again in the fall of 1989. After holding several post-doctoral positions, including a Junior Research Fellowship at Magdalen College, and a position at Princeton University, Binney returned to Oxford in 1981. His research concerns the structure, dynamics and formation of galaxies. He has received a number of awards and honours for his work, including the Maxwell Prize of the Institute of Physics in 1986, the Brouwer Award of the American Astronomical Society in 2003, the Dirac Medal in 2010, and the Eddington Medal in 2013. He has been a Fellow of the Royal Astronomical Society since 1973, and was made a Fellow of the Royal Society and a Fellow of the Institute of Physics, both in 2000. He sits on the European Advisory Board of Princeton University Press.

Abstract

Massive resources are being devoted to surveys of our Galaxy on the understanding that we will be able to learn from them how our Galaxy is constituted, functions and was formed. Crucial for extracting the promised science from the data will be sophisticated chemo-dynamical models that must be fitted to the data in a high-dimensional space. I'll review the state of the art in these processes, and outline results obtained by analysing unpublished data from the RAVE survey. Although solid progress is being made, a huge challenge still lies ahead of us. Time is now short if we are to be ready to exploit data from ESA's major satellite Gaia, which is set for launch this coming September.



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

You are welcome to nominate speakers to Weimin Yuan (wmy@nao.cas.cn), Mei Zhang (zhangmei@bao.ac.cn), Licai Deng (licai@bao.ac.cn), Xuelei Chen (xuelei@cosmology.bao.ac.cn), Shude Mao (smao@nao.cas.cn)