Yu-Qing Lou, J Astrophys Aerospace Technol 2018, Volume 6
DOI: 10.4172/2329-6542-C1-017

Magnetohydrodynamic Density Waves in Spiral Galaxies

Yu-Qing Lou
Tsinghua University, China

The background information of stars and galaxies in the cosmos is first described. The physical scenario and the theoretical model framework are then outlined. The basic phenomenology and the key concepts pertinent to density waves and fast and slow magnetohydrodynamic (MHD) density waves for spiral galaxies are presented. Major theoretical results are shown and explained. As examples of astrophysical applications, we discuss multiwavelength diagnostics, hot galactic coronae, inhomogeneous spiral galactic winds, circumnuclear starburst rings in barred spiral galaxies and chains of galaxies among others.

Biography

Yu-Qing Lou, winner of 1981 China-US Physics Examination and Application (CUSPEA) sponsored by Nobel Laureate Professor T.D. Lee, has completed his physics PhD in 1987 from Harvard University. He became High Altitude Observatory and Advanced Study Program Fellow at National Center for Atmospheric Research (NCAR) 1987-1989. He has published more than 140 international journal papers (including Nature, Science, The Astrophysical Journal (Letters), Monthly Notices of the Royal Astronomical Society (Letters), Journal of Geophysical Research, Geophysical Research Letters, Astronomy and Astrophysics). In 2002, he became distinguished Yangtze Professor in Physics Department of Tsinghua University. He has served in review panels in USA, China and others.

louyq@tsinghua.edu.cn

Notes: