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The bar/bulge region of our Galaxy

Dr. Lia Athanassoula (Laboratoire d'Astrophysique de Marseille)

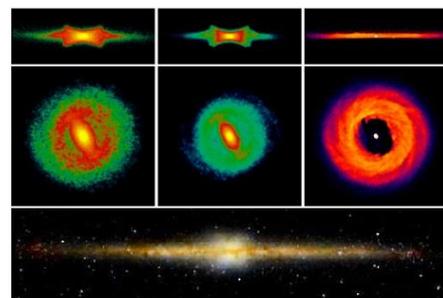


Lia Athanassoula, researcher at the Laboratoire d'Astrophysique de Marseille (OAMP / LAM / CNRS / Université de Provence), is distinguished for her perceptive work in numerical dynamics of disk galaxies. With Sellwood in 1986, she demonstrated how the gravitational field of the dark halo and the velocity dispersion of the disk can both contribute to the stability of the disk. Her studies of angular momentum transport between galactic bars and dark halos showed how angular momentum

transport can affect the strength, shape and pattern speed of the bar: the dark halo can make a bar become more prominent, instead of simply stabilizing the disk against bar formation as was previously believed. Her pioneering papers (1992ff) on gas flows and shock structures in galactic bars, and the observable consequences made her the leading authority on this subject. Her more recent work on the formation of boxy and peanut-shaped bulges via bar formation is particularly useful because of its direct application to the large amount of new observational data on the kinematics of the Galactic bulge and boxy bulges in external systems. She won the grand prize of the Greek Academy of Sciences in 2005, and the Brouwer Award in 2011.

Abstract

Like many other disc galaxies, the Milky Way has a bar and a boxy bulge in its central parts. I will use N-body simulations to discuss the formation, evolution and properties of such structures. I will also discuss the role of the dark matter in these processes and how baryonic and dark matter interact. Finally, I will present very recent results from simulations including gas, star formation, feedback and cooling and discuss their effect on bar formation and evolution.



All are welcome! Tea, coffee, biscuits will be served at 2:45 P.M.

You are welcome to nominate speakers to Shude Mao (shude.mao@gmail.com), Licai Deng (licai@bao.ac.cn), Xuelei Chen (xuelei@cosmology.bao.ac.cn).