



Contribution ID: 46

Type: **not specified**

Kinematic fractionation of the Milky Way boxy/peanut bulge

Thursday 29 January 2026 09:50 (20 minutes)

The Milky Way (MW) bar hosts a prominent boxy/peanut (B/P) structure, recognised since the COBE mission. Simulations of bar evolution that include ongoing star formation show that the B/P morphology varies across stellar populations due to kinematic fractionation, meaning that stars of different ages originate in different kinematical conditions of the bar/disc and therefore settle onto different orbits, producing population-dependent B/P shapes. The metallicity dependence of the B/P in red clump stars provided the first evidence that this process operates in the MW.

In this talk I will present my results from analysing the spatial distributions of variable stars (RR Lyrae and Miras) that trace different age populations and provide further evidence for the kinematic fractionation of the Galactic B/P bulge. Upcoming infrared astrometric surveys such as JASMINE and GaiaNIR will deliver deeper and more complete coverage of the obscured inner Galaxy, enabling far more precise mapping of the MW bar and B/P structure across stellar populations. Combined with improved theoretical modelling, these data will significantly advance our understanding of the MW bar's dynamics and evolutionary history.

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Session Classification: IR Astrometry: big science questions (I). Chair: Minia Manteiga