R05a   Building the largest mock astrometric catalogue of the Milky Way centre in the near infrared for the end-to-end simulation of the JASMINE satellite

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There is currently a strong push towards infrared astronomy, like the ground-breaking JWST and the upcoming ROMAN and Gaia NIR missions. The Japanese JASMINE telescope will be the first Near Infrared (NIR) astro-photometric mission to focus on the inner-most Galactic central region of our Galaxy and, in many senses, it will be a crucial stepping stone in the field of NIR high-precision astrometry for Milky Way (MW) dynamics. In order to test our data processing pipelines, we require a robust and reliable way to generate mock images. In this contribution, we present the JASMINE input catalogue: the most complete census of point-like sources in the NIR towards the Galactic centre. We used this catalogue as a blueprint from which to generate mock sources that resemble real stars as much as possible, while offering also the possibility of generating synthetic sources to compensate for observational incompleteness. The novel method developed here treats the available data of each individual star as evidence in the likelihood of a Bayesian inference process, relying on state-of-the-art models of the Nuclear Stellar Disc and Cluster to define the priors. The result is a customised probability distribution function of the missing data for each star that we can then use to generate mock sources which, by construction, are statistically compatible with the real observations. This represents the biggest and most realistic mock catalogue of the MW centre to date.