Inferring the Spatial Structure of the Pleiades: A Bayesian approach.

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Résumé

Using Bayes theorem and a Markov Chain Monte Carlo Sampler we obtain the posterior distribution for the parameters of our models given the list of Pleiades' members of Sarro et al. (2014). We describe the spatial structure of the pleiades using two family models, Plummer and King's profiles; we modify these classical models by (1) adding the density of field stars, and (2) allowing the model dependent characteristic radius to depend linearly on Sarro's lambda parameter. This parameter gives the position of the star in the isochrone of the cluster an therefore could be related to the mass of the star. We select the best model using bayes factor.

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