

**THE VERTICAL STRUCTURE OF THE GALACTIC DISC**

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We have analyse star-count data in the direction of the Galactic Poles using a model of stellar population synthesis (Robin & Crézé (1986), Bienaymé, Robin & Crézé (1987)). The HR diagram for disc stars in the model is computed for a given star formation rate history and initial mass function (Haywood, 1994). In a paper submitted to A&A (Haywood et al.), we give a detailed investigation of the effects of these two functions on the simulated star-counts, and compare these with observed V, B-V data from V=5 to 22. We have obtained new constraints on the SFR, which we show has remained constant (to within a factor <3) since the disc formation, and on the IMF in the intermediate mass range (1-2  $M_{\odot}$ ). Finally, we also obtain new constraint on the increase of vertical velocity dispersion with age. We state that if the disc does not contain any dynamically important dark mass, then this relation saturates at value smaller than 21  $km.s^{-1}$ .

## References :

- Bienaymé O., Robin A. C. & Crézé M., "The mass density in our Galaxy : a dynamical model constrained by general star counts", 1987, A&A 180, 94  
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Haywood, M., "A model of stellar evolution of the Galactic Disc", 1994, Astron.& Astrophys. 282, 444.