

A SYNOPTIC VIEW OF THE MAGELLANIC CLOUDS:  
VMC, GAIA AND BEYOND

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## **Model fitting of LMC Cepheid light curves**

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In this contribution I'll present the results of the model fitting technique applied to a sample of 18 LMC Classical Cepheids observed within the VMC survey. The quoted technique is based on the use of nonlinear convective pulsation models that allow to predict all the observables of pulsating stars such as the light and radial velocity curves. Comparing the predicted and the observed time series provides us with an estimate of the structural parameters (e.g. Mass, Luminosity, composition), the distance and the reddening of the analyzed pulsating stars. Moreover the comparison between the predictions of hydrodynamic models and observations, allows to put constraints on the physics at the base of the models themselves, with particular reference to the role of the convection within the pulsation phenomenon.