

## Luminosity calibration in the LMC with Gaia

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### Abstract

Determining the mean distance to compact objects such as the Magallanic clouds and open or globular clusters is a vital part of Gaias role in the field of luminosity calibration. For the LMC, the distances involved mean that most of Gaias parallax measurements will have a formal error several times larger than the value being measured. However, combining data from the more than seven million stars which are expected to be observed can lead to an unbiased estimate of the mean distance to the LMC though the use of statistical methods. Due to the possibility of error correlations when dealing with mean parameters for many stars with small angular separation, the extent of error correlations in Gaia is discussed.