

Calibration and Standardization of Large Surveys and Missions in Astronomy and Astrophysics



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“Lyra”, a high-precision multicolor photometric stellar survey onboard the ISS

Sternberg Astronomical Institute of Moscow State University is currently developing the “Lyra” space mission with the aim to conduct a multicolor photometric all-sky survey of stars from 3m to 16-17m onboard the ISS and produce a high-precision photometric catalog of stellar standards. The photometric accuracy of the catalog is expected to be 0.001-0.003m for stars brighter than 12m and 0.01m for fainter stars down to a limiting magnitude of 17m. A total of ~300 million stars are to be observed over five years in 10 bands spanning the 200 to 900-1000 nm interval and in one broad panchromatic band, with on average 100 measurements per object. The expected launch date is between the end of 2015 and mid 2016.

We describe the implementation of the mission, the expected results, as well as possible ways of calibration.

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