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# Classical variables in the era of space photometric missions

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## Abstract

Results from the Kepler, Corot and MOST missions proved that continuous, high-precision photometry can reveal important new insights of classical variables, Cepheids and RR Lyrae stars. However, Cepheids are rare beasts in the Galaxy and the sample so far is very low: only a handful of stars were ever measured from space. Similarly, out of the tens of thousands of RR Lyrae stars, only a few dozen were observed by photometric missions. In this talk I shall review the future prospects of this field, including the sample of stars and new phenomena the K2, MOST, TESS and Plato missions may observe. These missions may provide observations of thousands of RR Lyrae stars and hundreds of Cepheids. However, the temporal coverage of the individual missions range from 27 days to 2-3 years. Therefore not all missions will be able to observe longer-term phenomena but successive missions may complement the measurements of each other. I shall also review the results of the target selection of the first K2 fields: Kepler will be able to measure several Cepheids and, perhaps more importantly, RR Lyrae stars in several distinct stellar populations: field stars, globular cluster members and even stars in dwarf spheroidal galaxies around the Milky Way.

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