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**Cloud Globular Clusters I: NGC** 

Variable Stars in Large Magellanic

(Submitted on 27 Jul 2011)

This is the first in a series of papers studying the variable stars in Large Magellanic Cloud globular clusters. The primary goal of this series is to better understand how the RR Lyrae stars in Oosterhoff-intermediate systems compare to those in Oosterhoff I/II systems. In this paper we present the results of our new time-series BV photometric study of NGC 1466. A total of 62 variables were identified in the cluster, of which 16 are new discoveries. The variables include 30 RRab stars, 11 RRc's, 8 RRd's, 1 candidate RR Lyrae, 2 long-period variables, 1 potential anomalous Cepheid, and 9 variables of undetermined classification. We present photometric parameters for these variables.

For the RR Lyrae stars physical properties derived from Fourier analysis of their light curves are presented. The RR Lyrae stars were used to determine a reddening-corrected distance modulus of (m-M)0 = 18.43 + -0.15. We discuss several different indicators of Oosterhoff type and find NGC 1466 to be an Oosterhoff-intermediate object.

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