
Period Changes of Field RR Lyrae Stars

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The secular period behavior of 23 field RR Lyrae stars is studied in order to determine if the observed period changes could be attributed, at least in the mean, to stellar evolution. The sample of stars is subdivided into two Oosterhoff groups based on the metallicity and period-shift. Despite the small sample size, we found a distinct bias toward positive period changes in the group II variables. The period changes of the group I variables, however, are small and in the mean near zero. This is consistent with the behavior predicted by the recent evolutionary models, as is the case for the variables in globular clusters. This provides yet another support for the Lee, Demarque, and Zinn (1990) evolutionary models of RR Lyrae stars and their explanation of the Sandage period-shift effect.