LITHIUM ABUNDANCE AND ACTIVITY FOR 57 RS CVn SYSTEMS

Liu Xuefu[1], Zhao Gang[2], Tan Huisong[3] and Lu Fangjun[1]

1. Dept. of Astronomy, Beijing Normal Univarsity
2. Beijing Observatory, Chinese Academy of Science
3. Yunnan Observatory, Chinese Academy of Science

ABSTRACT   High-resolution (0.145A/diode, high signal-to-noise (>100) Reticon spectra of 57 RS CVn systems, which were observed with the coudé spectrographs of the McDonald 2.1m telescope and Yunnan 1m telescope, were used to analyse a correlation between Li abundance and chromospere activity. Li abundances of 57 RS CVn stars, which include 76 detected components have been determined through the determination of equivalent widths of Li doublet (6707.761A + 6707.912A) and Kuruz's model atmosphere. The model metal abundance and line analysis of 10 RS CVn stars were determined from the present spectral lines data. The main results are the following: 1, Lithium abunances of 76 RS CVn components for 57 RS CVn systems are obviously reduced with the the effective temperatures gradually decreasing. 2, Li abundance has staistically decreasing trend in RS CVn stars with the rotational velocities vsini increasing. 2, The position of 168 RS CVn stars in the (U-B,B-V) Figure show that they can be devided into two groups. The most of them seem to be not poor-metal stars. Li abundances of these stars seem to have no obious correlations with their stellar chromosphery activity levels, but 7 RS CVn systems, in which cool component is more active show that the more active component has a lower Li abundance.