

THE ABUNDANCE OF GALLIUM IN B-TYPE CHEMICALLY PECULIAR STARS *

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ABSTRACT. Quantitative analyses of the Ga abundances in 27 Hg-Mn stars; 11 Si (magnetic) stars, 8 He-weak stars, and 7 normal stars are made with the resonance lines of Ga II at 1414 Å and Ga III at 1495 Å in IUE spectra. The Ga overabundances are confirmed as a genuine anomaly in many peculiar stars. Only upper limits of the Ga abundance can be obtained for some stars. However these upper limits are much lower than those inferred from visual spectra. Among the 27 Hg-Mn stars, 17 stars are distributed in the range of 2.0 - 3.8 dex of overabundances of Ga. Ten other stars show upper limits less than 2.1 dex. Fifteen stars of 20 hotter Hg-Mn stars with $T_{\text{eff}} > 11000$ K show high overabundances in a narrow range of 2.6 - 3.8 dex, while, among 7 cooler Hg-Mn stars, the only star HR 7775 shows the same overabundance as in these 15 stars. Of 11 Si stars, 9 stars have Ga overabundances ranging from 1.9 to 3.2 dex. Gallium is overabundant in 5 out of 8 He-weak stars in the range of 1.7 - 3.2 dex, while in the three other stars the upper limits are less than 1.3 dex. The Ga abundances in normal stars are all upper limits which roughly correspond to the solar value.

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