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## FUNDAMENTAL CHARACTERISTICS OF COOL GIANT STARS

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**ABSTRACT.** The methods are suggested for determination of fundamental characteristics of cool giant stars from photometry in the Geneva and Gildenkern systems, using for calibration of a great number of standard stars. The catalogues of  $T_{eff}$ ,  $\lg g$ ,  $[Fe/H]$  are obtained for 1000 stars and 600 stars in Geneva-Observatory and Gildenkern systems, respectively.

Effective temperature scales and gravity accelerations are determined. The metallicity distribution is obtained according to the spectral types. The metallicity data of stars, belonging to dynamical groups and open clusters,

have not confirmed the presence of a linear "metallicity – age" relationship. A conclusion is made on the existence of two age groups among disc giants. The absolute stellar magnitudes ( $M_v$ ), the bolometric stars magnitudes ( $M_{bol}$ ), the luminosities ( $L$ ), the radii ( $R$ ), the masses ( $M$ ) for 1370 stars by using the catalogue values of the effective temperatures ( $T_{eff}$ ), gravities ( $g$ ), metallicities ( $[Fe/H]$ ) have been determined. The relation of those values to a spectral type and metallicity have been obtained.

**Key words:** Stars: characteristics.