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Mathematical modeling of the light curves of variable stars: review and atlas of the light curves

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We review the study of variable stars using mathematical modeling of their mean light curves. The simulation is carried out by various methods, using the observational databases AAVSO, AFOEV, VSOLJ, TESS, ZTF, ASAS-SN, etc. The purpose of the simulation is to "digitize" the light curves to determine statistically optimal numerical parameters that characterize brightness changes with time. One of the simulation results is the compilation of an "atlas" of mean and individual light curves and "phase portraits"for stars of different types. This study is within the frames of the international projects "Virtual Observatory", "AstroInformatics", "Inter-Longitude Astronomy".

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