Orbital Elements of MACHO Project Eclipsing Binary Stars

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Large scale photometric surveys can deliver very large numbers of eclipsing binary stars. It is not presently possible to obtain radial velocity information for more than a small fraction of these. We have made some progress in the estimation of the statistical distributions of orbital elements (including semi-major axis and eccentricity) in the MACHO Project catalog of eclipsing binary stars. We see the well-known tendency to circularization in short period orbits and also detect late tidal circularization during the giant phase. The extension of these techniques to newer surveys will also be discussed.