The tidal field from a nearby binary companion affects the structure and evolution of stars. We successfully applied the Kippenhahn averaging formalism to the Roche potential and used the method to formulate approximate models of tidally deformed primaries in close binary systems. We considered both the detached and the contact configurations and neglected chemical composition evolution. These tidally deformed models are thermally stable. We explored the parametric dependence of the results on three quantities: mass ratio q in the binary, surface equipotential C of the primary or the fill-out factor $F(C)$, and mass M_1 of the primary.

We found that the depth of the surface convective layer of low mass primaries increased due to tidal deformation. All models decreased their effective temperature when compared to their spherical counterparts. Our results also predict a positive correlation between the effective temperature and the fill-out factor for contact systems. Furthermore, the temperature negatively correlates with the mass ratio of the deformed system. Finally, when isolating the tidal deformation effects, a jump in temperatures was found around $1.2\,M_\odot$ for most fill-out factors. These findings could help to explain the observationally reported dichotomy of contact binary systems at the temperature approximately corresponding to the Kraft break known from isolated star population.