

The aim of this work is to study gravitational lensing of galaxy–cluster halos influenced by individual galaxies in the halo. The halo mass is generally dominated by dark matter, which can be described using a Navarro, Frenk–White density profile. In our model, we use a spherical halo defined by this model and point masses as simplest approximation for individual galaxies. The analysis of halo–parameter influence on gravitational lensing regimes of the combined model yields a complete parameter–space map of critical curves and caustics. In addition we present an adaptation that makes this model numerically more advantageous and we illustrate special cases of the combined influence of two galaxies.