

Shell galaxies are ordinary elliptical galaxies that contain a fine structure in the form of concentric arcs with sharp edges in their luminous profile. This work contains a summary of our comprehensive study of the actual research and publications on this remarkable phenomenon, concerning both the observations as well as the numerical simulations. Along with it we present the results of our own simulations that broaden our view of the origin of the shells in a radial merger of a massive elliptical galaxy with a less massive one. We have introduced the dynamical friction into the simulation by semi-analytical means based on the Chandrasekhar formula. The main result is that the dynamical friction together with the gradual disintegration of the secondary galaxy that is also discussed can significantly affect the process of the shell formation and must be taken into consideration in their modelling. It turns out that the time scales on which the merger takes place are rather sensitive to the choice of the parameters. We present an estimate of their magnitude in different cases. The mass loss of the secondary galaxy during the merger mitigates the effect of the dynamical friction but does not make its role negligible.