

Interaction of three bodies is generally quite chaotic and a problem difficult to solve. Case in which binary star approaches third, heavier body is a special configuration of this problem and was investigated by J. G. Hills in his articles. In such interaction, either absolute breakup of the system to three independent bodies, survival of the binary star, or replacement of one component of the binary by the heavier body would occur – an exchange collision. If the replacement is to happen, the exchanged body is ejected away from the system with high velocity and such effect we call Hills mechanism. In such case the binary star usually has higher binding energy and is much more resistant if such situation were to occur again. However, Hills' results are not sufficient e.g. for effects within the core of our galaxy. Using numerical integration we modelled approximations of binary stars to a third, heavier body, thanks to which we could verify Hills' results and expand on them with initial conditions which are more suited to situations occurring within the core of our galaxy.