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# Method of computing manoeuvres parameters during the space flight into the libration point $L_2$ of the Sun — Earth system

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*The article considers the problem of computing manoeuvres parameters at the stage of the spacecraft flight into the neighborhood of the libration point and at the stage of movement in the neighborhood of this point. We introduce the method of computing manoeuvres parameters developed as part of the project “Spectrum-RG”. This method involves maximizing the residence time in the defined area and is based on the quasi-Newton method of the numerical optimization with simple constraints. The article looks at the distinctive features of the method and the calculation data within the framework of Monte-Carlo algorithm, which takes into account various types of inaccuracies and tolerances.*

**Keywords:** libration point, quasi-periodic orbit, correction maneuver, quasi-Newton method of optimization

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