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Transverse separation of meteoroid fragments in the atmosphere

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The transverse scattering of meteoroid fragments in the supersonic flow has been investigated. The fragments transverse force originates from shock waves interaction. The model of meteoroid fragments separation by layers has been proposed. Each fragment is considered as an individual solid. The analytical solution of the dynamic equation is used for modeling where the transverse force dependence on the distance between fragments is taken into account. It is discovered that the transverse scattering time to the point where the interactions stop is significantly shorter than total time of meteoroid movement in the atmosphere and practically does not depend on the number of fragments according to the proposed model.