

## **FORMATION OF BRANCHED STRUCTURES OF SWIFT HEAVY IONS INDUCED TRACKS**

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Formation of the extensive structures from separate tracks depending on the characteristics of projectile beam and on parameters of the swift heavy ions induced tracks are theoretically modeled in this paper. The paper considers tracks like a chain of deal spherical regions; it was assumed that each incident ion creates one such chain. The dependence of the surface area of the sample after exposure and removal of the modified substance from the irradiation dose, and the incidence beam angle of heavy swift ions and from the average distance between one track's spherical parts is search out. Calculations were made using Monte Carlo method. With the irradiation angle increasing dose curve convex most strongly varies. It was established that the angular dependence of the surface area of the branched structure formed by the overlapping areas of track has a maximum value at certain "critical" angle of ions incidence (at fixed dose), which depends on the distance between the spherical regions in the track.

*Keywords:* track, branched structures, fast heavy ions, the Monte Carlo method, the angle of irradiation, irradiation dose.