

## <sup>193</sup>Bi

<sup>193</sup>Bi was identified by Tarantin et al. in the 1971 paper “Identification and study of the radioactive properties of bismuth isotopes with an electromagnetic mass separator in a heavy-ion beam” (1970Ta14). A 200 MeV <sup>20</sup>Ne beam from the Dubna U-300 cyclotron bombarded a <sup>181</sup>Ta target forming <sup>192–195</sup>Bi in (9n-6n) fusion-evaporation reactions. Recoil products were separated with an online mass separator and the subsequent  $\alpha$  decay was measured with a semiconductor  $\alpha$  counter. The  $\alpha$ -decay energies and half-lives are summarized in a table. For <sup>193</sup>Bi, half-lives of 62 s and 3.15 s corresponding to the ground state and an isomeric state, respectively, were listed. Tarantin et al. did not consider these observations discoveries referring to an overview article by Eskola (1967Es05), who listed results for these isotopes based on a private communication by Siivola.

Adapted from reference (2013Fr04)

- 1967Es05 P. Eskola, Ark. Fys. **36**, 477 (1967).  
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