# $^{199}$Bi

In 1950, Neumann and Perlman described the first observation of $^{199}$Bi in "Isotopic assignments of bismuth isotopes produced with high energy particles" (1950Ne77). Lead targets were bombarded with 100 MeV protons and deuterons from the Berkeley 184-inch cyclotron and $^{199}$Bi was identified following chemical separation measuring $\alpha$- and $\beta$-activities with a mica end-window Geiger tube and a parallel plate chamber, respectively. "25-Min. $Bi^{199}$: A bismuth of this period was first noted through its alpha-emission, and has now been assigned to $Bi^{199}$ through its genetic relationship to 7-hr. $Tl^{199}$ by way of electron capture decay." This half-life corresponds to an isomer and the ground state was measured sixteen years later by Siivola et al. (1964Si11). Previously, 9 min, 27 min and $1-2$ hr. half-lives was reported without a mass assignment (1948Te01).

Adapted from reference (2013Fr04)


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Please cite this abstract as: "FRIB Nuclear Data Group, *Discovery of Nuclides Project*, Isotope Database, doi:10.11578/frib/2279152"