



Nuclear Theory

Heavy particle radioactivities of superheavy nuclei

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The concept of heavy particle radioactivity (HPR) is changed to allow emitted particles with $Z_e > 28$ from parents with $Z > 110$ and daughter around 208Pb. Calculations for superheavy (SH) nuclei with $Z = 104-124$ are showing a trend toward shorter half-lives and larger branching ratio relative to alpha decay for heavier SHs. It is possible to find regions in which HPR is stronger than alpha decay. The new mass table AME11 and the theoretical KTUY05 and FRDM95 masses are used to determine the released energy. For 124 we found isotopes with half-lives in the range of ns to ps.

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