A REVIEW ON SUPER-HEAVY NUCLEI

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**Abstract:** The desire to discover and investigate one of the most severe limitations of the existence of matter is what motivates the search for superheavy elements (SHEs). In this review article, we will look over the statements that despite of having the instability of atoms with proton number >92 how do these heavy elements with atomic number >100 to 118 exist and in which state. The preparation of these super heavy nuclei is also very important to know their characteristics. In addition to hot fusion reactions between actinide nuclei and 48Ca that lead to the discovery of elements with atomic numbers Z = 113-118, processes like cold fusion between 208Pb82 and 209Bi83 and beams of A > 50 have been defined. Furthermore, it will be highly desired to investigate how the stability of these extremely heavy metals is impacted by spontaneous fission half-lives and the behavior of alpha-decay energies. The main aim of this review article is to provide a good understanding of superheavy elements and to explore the potential areas for future research as well as the likelihood of developing new facilities and heavier elements like Z=119,120.