

Optimization of the solid ISOL method for volatile reaction products of heavy ion beam reactions

Physicists were able to create new and unstable heavy elements in the 1940's. With the discovery and development of new superheavy materials, researchers' interest has not stopped, leading to concepts such as "Island of Stability" and "Sea of Instability." The MASHA (Mass Analyzer of Super Heavy Atoms) mass spectrometer at JINR was designed for the identification and measurement of physical properties of superheavy elements, such as decay energy and modes, mass and half-lives. A strong ISOL (Isotope Separation OnLine) system is used for the MASHA setup. These experiments are being carried out at the MASHA facility of the Flerov Laboratory of Nuclear Reactions (FLNR) of the Joint Institute of Nuclear Research (JINR).

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