PREPARATION OF METALLIC SUBSTANCES WITH ULTIMATE LOW IMPURITY CONTENT

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Detection of Sun neutrino flux is a method that allows metallic substances with ultimate low contents of individual impurities to be prepared. Experimental and theoretical evidences of the possibility to prepare metallic substances in the absolutely pure state (based on tested impurity in a nonequilibrium state for a finite time interval) are demonstrated by separation of individual 71Ge atoms (the concentration of the tested impurity is ~10^{-27} at%) from metallic gallium target (50 t). The reliability of the separation is indicated by the agreement of neutrino flux values obtained with different Sun neutrino detectors.

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