

Search for doubly-magic ^{48}Ni

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The doubly magic nucleus ^{48}Ni has been observed for the first time in September 99 at GANIL. The experiment was performed using a high intensity ^{58}Ni beam at 74 MeV/A on a nickel target. The projectile fragments produced in the high acceptance SISSI device were selected in the LISE3 spectrometer and the Wien filter.

The detection setup allowed the unambiguous identification of two ^{48}Ni implantation events in a silicon detector, with the crossed requirements of energy-loss, energy and time of flight measurements. In addition, we implanted a few tens of ^{45}Fe and ^{49}Ni , that may give some information on their decay mode.