

Registration of ^{71}Ge rare decays in radiochemical gallium experiments SAGE and BEST.

Thursday, 13 October 2016 17:15 (15)

Registration systems of rare events from ^{71}Ge decay in radiochemical gallium experiments SAGE and BEST are presented, where miniature proportional counters are used as detectors. The registration of the events is provided by eight counting channels simultaneously in the energy range of 0.4-15 keV which includes the ^{71}Ge decays in the region of the L and K peaks with total efficiency up to 75%. Data analysis is based on full charge pulse shape recording using digital oscilloscope. Effective background discrimination is basically obtained due to low noise (<0.32 keV) and wide bandwidth (>100 MHz) of the system electronics. The design and main parameters of base components of the registration systems, description of electronics and comparison of their electrical and counting characteristics are given.

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Session Classification : Method of experimental physics - parallel V

Track Classification : Methods of experimental physics