

## Investigation of double beta decay of $^{100}\text{Mo}$ to excited final states of $^{100}\text{Ru}$

*Thursday, 12 September 2013 16:40 (20 minutes)*

Double beta decay of  $^{100}\text{Mo}$  to the excited states of daughter nuclei has been studied using a 600 cm<sup>3</sup> low-background HPGe detector and an external source consisting of 2588 g of 97.5% enriched metallic  $^{100}\text{Mo}$ , which was formerly inside the NEMO-3 detector and used for the NEMO-3 measurements of  $^{100}\text{Mo}$ . The half-life for the two-neutrino double beta decay of  $^{100}\text{Mo}$  to the excited 0+1 state in  $^{100}\text{Ru}$  is measured to be  $T_{1/2} = [7.3 \pm 0.6(\text{stat}) \pm 0.6(\text{syst})] \times 10^{20}$  yr.

For other ( $0\nu + 2\nu$ ) transitions to the 2+1, 2+2, 0+2, 2+3 and 0+3 levels in  $^{100}\text{Ru}$ , limits are obtained at the level of  $\sim (0.25-1.1) \times 10^{22}$  yr. All results are still preliminary.

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**Session Classification:** Double Beta Decay/ Neutrino Mass V

**Track Classification:** Double Beta Decay