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WITCH: first measurement and recent developments

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We present in detail the status of the WITCH experiment (Weak Interaction Trap for Charged particles). The primary aim is to investigate exotic weak currents in nuclear beta decay by measuring a recoil ion spectrum and deriving the beta neutrino angular correlation coefficient from its shape. At the end of the year 2006, we succeeded for the first time in measuring a recoil ion spectrum using 124In. The data have, in the meantime, been thoroughly analysed and the charge state distribution of the recoiling ions has been derived from it. In 2007 a lot effort has been made to improve the precision of the experiment; one of the topics in this respect was the improvement of the Penning traps. A direct result of this is a significant increase in the mass resolution, which is useful to remove isobaric contamination; currently a mass resolution of 200,000-300,000 can be routinely achieved in test conditions.

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