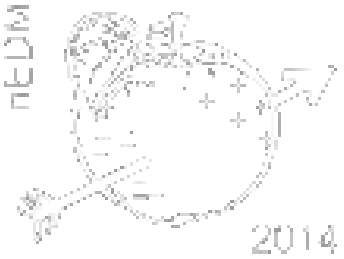

Contribution ID: **30** Type: **Oral**

PSI - neutron detection

Tuesday, 4 November 2014 16:45 (20 minutes)

A fast detector (NANOSC) and a simultaneous spin analyzer (USSA) have been built for the nEDM experiment at PSI. The detector is based on 6Li depleted glass scintillators (GS30) glass stuck to the front of 6Li enriched glass scintillators (GS20). With such a combination, the edge effects, inherent to low energy neutron detection, are suppressed and a clear separation between the gamma and the neutron contributions is carried out. The scintillators rate capability is about few 105 counts/s. A multi-detector with nine channels (NANOSC) has been built in order to handle counting rate up to few 106 counts/s. A new fast acquisition system (FASTER) is coupled to the detector.
In parallel, a new spin analyzer has been carried out. It is made of two arms from which a simultaneous spin analysis can be performed. Such a device allows to symmetrically treat the two spin components and reduces the UCN depolarization and losses during the counting period. It has been successfully tested below the nEDM spectrometer. An increase

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