

Abstract Submitted
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Characterization of new materials for Ultracold Neutron transport and storage EDGARD PIERRE, TRIUMF, Vancouver, Canada, NICHOLAS CHRISTOPHER, University of Waterloo, Canada, SHINSUKE KAWASAKI, KEK, Tsukuba, Japan, RUSSELL MAMMEI, The University of Winnipeg, Canada, JAMES MARCELLIN, University of British Columbia, Canada, RYOHEI MATSUMIYA, RCNP, Osaka university, Japan, RUEDIGER PICKER, TRIUMF, Vancouver, Canada — At TRIUMF, we are currently developing a super-thermal Ultracold Neutron (UCN) source using phonon exchange in super-fluid helium. To take full advantage of the high density of UCN from the TRIUMF source we are developing high UCN transmission guides and long storage time volumes for polarized UCN. These guides and storage volumes are important for experiments requiring a high density of polarized UCN, such as the neutron Electric Dipole Moment (EDM) measurement. The transportation efficiency depends on the capacity of the guides walls to contain the UCN. The mean potential experienced by a UCN on wall collisions is called the Fermi potential and depends on the material. We have determined a set of potential candidates for our next generation UCN guides and EDM storage chamber. Their Fermi potential was measured using the SOFIA apparatus at MLF, J-PARC, Japan. Results of this measurement are presented in this talk.

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