

Accepted Manuscript

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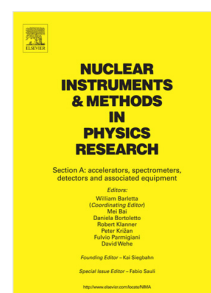
PII: S0168-9002(18)30485-6
DOI: <https://doi.org/10.1016/j.nima.2018.04.011>
Reference: NIMA 60731

To appear in: *Nuclear Inst. and Methods in Physics Research, A*

Received date: 27 October 2017
Revised date: 29 March 2018
Accepted date: 6 April 2018

Please cite this article as: N.K. Pleshanov, P.I. Konik, V.A. Matveev, Neutron fan beam reflectometry, *Nuclear Inst. and Methods in Physics Research, A* (2018), <https://doi.org/10.1016/j.nima.2018.04.011>

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Neutron fan beam reflectometry

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The schemes of measurements of neutron reflectivities with a fan (monochromatic or white) beam are considered; estimations of the luminosity increase are made. The position sensitive detector (PSD) plays the role of a multislit mask, the angular resolution being defined by the slit before the sample (or by a small sample itself) and the spatial resolution of PSD. The fan beam is formed either by an “open source” (transport guide window) or by means of a multichannel fan deviator following the transport guide. A polarized fan beam can be formed by means of a fan polarizer. Bandpass limiting choppers can be used for TOF measurements with a fan beam to eliminate background slow neutrons.

Keywords: Neutron reflectometry; Neutron reflectometers; Neutron fan beam reflectometry; Fan deviator; Fan polarizer

PACS numbers: 61.05.fj

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