

# **BEAM EMITTANCE MEASUREMENT OF A POLARIZED ION-SOURCE**

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## **Summary**

The emittance of the polarized deuteron beam of the KFUPM polarized ion source has been measured using a single-slit and single-wire scanner set up. The measurement was carried out after the spin precessor section of the polarized source. The emittance of 90% of the polarized deuteron beam of the KFUPM source was measured to lie within 1500 mm.mrad at 12 keV extraction voltage of the source. This value is 50% larger than that of a similar source at Zyklotron Laboratory, Kernforschungszentrum, Karlsruhe, Germany. Since the emittance of an atomic beam polarized ion source strongly depends upon the setting of the ionizer, the difference in the beam emittance of the KFUPM source and the Karlsruhe source may be due to different settings of the ionizer of the two polarized ion sources.

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