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Radiography using a dense plasma focus device as a source of pulsed X-rays JULIO HERRERA, FERMÍN CASTILLO, ISABEL GAMBOA, JOSÉ RANGEL, Instituto de Ciencias Nucleares, UNAM — Soft and hard X-ray emissions have been studied in the FN-II, which is a small dense plasma focus machine (5 kJ), operating at the Instituto de Ciencias Nucleares, UNAM, using aluminum filtered pin-hole cameras. Their angular distribution has been measured using TLD-200 dosimeters [1]. Their temporal evolution has been observed by means of a PIN diode, and scintillators coupled to photomultipliers outside the discharge chamber. The X rays source can be concentrated by placing a needle on the end of the electrode. X-rays crossing across a 300 micron aluminum window, through the axis of the machine, can be used to obtain high contrast radiographs, with an average dose of 0.4 mGy per shot. In contrast, the average dose with a hollow cathode is 0.2 mGy per shot. This work is partially supported by grant IN105705 de la DGAPA-UNAM.

[1] F. Castillo, J.J.E. Herrera, J. Rangel, I. Gamboa, G. Espinosa y J.I. Golzarri “Angular Distribution of fusion products and X-rays emitted by a small dense plasma focus machine” *Journal of Applied Physics* **101** 013303-1-7 (2007).

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