

Abstract Submitted
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Soft X-ray radiation measured by four-segment vacuum photodiode JIRI SCHMIDT, KAREL KOLACEK, OLEKSANDR FROLOV, VACLAV PRUKNER, JAROSLAV STRAUS, Institute of Plasma Physics, v.v.i., AS CR, Za Slovankou 3, 182 00 Prague — A soft X-ray diode is a strong diagnostic tool for system alignment, among others, in capillary discharge experiments, which generate directional soft x-ray radiation, eventually a laser pulse. In our experimental capillary discharge devices we usually used PIN diode or vacuum photodiode (one-segment). These diagnostics are not suitable, mainly because many shots (more than 50) are necessary to find the optical axis. Last year we designed and manufactured a four-segment soft X-ray vacuum photodiode with a golden photocathode, which detects the soft X-ray radiation emitted from our capillary discharge devices in the axial direction. This new vacuum photodiode is capable to locate the soft X-ray laser axis in a few shots (less than 10). The description and the experimental measurement of the four-segment soft X-ray vacuum diode will be presented.

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