

Comparison of Au and Pt foils for an imaging bolometer

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The imaging bolometer is a fusion reactor relevant diagnostic for the measurement of radiated power [1]. Essential to its ability to make accurate temporally and spatially resolved measurements of radiated power is the detailed calibration of the thin metal foil that converts the radiated power to infrared radiation measured by an infrared camera [2]. The choice of the foil material is critical to optimizing the sensitivity of the imaging bolometer. Calibration of the foil provides information on the actual sensitivity of the foil which can help in selecting the best foil material [3]. In this paper we present the results of a detailed calibration of Pt and Au foils to determine which is best suited for an imaging bolometer. The results will be used to determine which material will be used for the imaging bolometer planned for the KSTAR experiment.

- [1] B. J. Peterson et al., *Plasma Fusion Res.* **2** S1018 (2007).
- [2] H. Parchamy et al., *Rev. Sci. Instrum.* **77** 10E515 (2006).
- [3] H. Parchamy et al., in proc. IEEE 22nd Symposium on Fusion Engineering, (2007).