

## Electrodeless, Non-invasive X-ray Flux Monitor

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Flux monitoring is a must at modern x-ray light sources for alignment, measurement feedback and calibration. Dedicated x-ray flux monitors occupy space, absorb part of the beam and cannot be easily relocated. At the same time numerous x-ray beamline elements (vacuum windows, monochromators, refractive lenses, zone plates to name a few) inevitably absorb portion of the x-ray beam which is proportional to incoming flux. At present there are no devices which can measure flux non-invasively based on this parasitic absorption. Euclid Techlabs LLC proposes a non-invasive, electrodeless method to measure x-ray absorption on the beamline element. This measurement utilizes a microwave resonator placed around the beamline element which is sensitive to photoinduced conductivity due to x-ray absorption. Microwave spectroscopy measurement, having an incredible dynamic range of six orders of magnitude is expected to be very sensitive. In this paper we will describe the measurement method and report on experimental progress to date.