

KOWARI Residual Stress Scanner at ANSTO

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The OPAL research reactor at ANSTO has several instruments available for materials science and engineering applications. The KOWARI instrument has a unique non-destructive ability to measure stresses locked-in due to manufacturing processes in various materials such as metals, ceramics, and composites. Often residual stresses can be greater than stresses generated by applied load, therefore from a design and structural integrity point of view they need to be understood and quantified in the same way as external stresses. Diffraction base techniques provide vital non-destructive measurements of residual stresses on the surface and deep within the interior of components, in small test volumes, in thin and thick specimens.

Those measurements can be carried out on real engineering components, or test samples with minimal preparation. This information provides direct impact into the optimization of modern manufacturing processes, improved product reliability, enhanced design performance, reduced production cost, and extended life of significant engineering assets (e.g. power-station utilities, gas pipelines, aircrafts, trains, etc.). The results show case how you can use the KOWARI instrument to solve material and engineering problems on large and small scales.

Level of Expertise

Expert

Do you wish to take part in the poster slam

No

Travel Funding

No

Speakers Gender

Female

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