
X-ray tomography to study the mechanical behaviour of structural materials

Nicolas Gueninchault*¹

¹Centre des Matériaux (MAT) – CNRS : UMR7633, MINES ParisTech - École nationale supérieure des mines de Paris – Centre des matériaux P. M. Fourt RN 447 - BP 87 91003 EVRY CEDEX, France

Abstract

The increasing popularity and capability of X-ray tomography to image cracks and damage in three dimensions in a non destructive fashion brings forward a new way to validate the mechanical behaviour of structural materials including deformation and failure. Several examples, covering a wide range of materials, inspected by laboratory X-ray tomography and conducted at Laboratoire Navier, will be presented. The development of an original tension machine adapted to the tomograph will also be described and the first results discussed.

*Speaker