

Comparison of fractal compression methods impact on radiographic images of weld defects

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Abstract : This paper proposes an evaluation of various fractal compression techniques, dedicated to radiographic images of weld defects. Fractal image compression, based on concepts of iterated function systems (IFS), consists of partitioning blocks and approximates each block by a transformed codebook block derived from the image itself. Each transformation, described by a linear term and a translation term, maps a block onto another block with a different resolution and composes the coded information. For the purpose of this work, we selected four well-known fractal compression techniques employing different partitioning schemes: Fixed size square block (Jacquin's method), Quadtree decomposition, Triangle subdivision, Delaunay triangulation. Preliminary results obtained on radiographic images of weld defects; show that the Jacquin's method seems to give the best compromise between coding performance and image quality.

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