

4.5.6. THE PURPOSE OF MULTISCALE MODELLING FOR ADVANCED NDT METHODS

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Materials multiscale modelling is a subject of active research in material science. The objective of this field is to develop predictive models for material behaviour using theoretical and computational techniques that can link implicitly the spatial and temporal scales of material structure.

This approach suggests great opportunities for scientific and technological advances for material characterisation and emphasizes scientific investigations to match up theoretical and experimental approaches. Due to their computational efficiency the multi-resolution models are the mainly investigated approaches. In this work a multi-resolution ultrasonic signal analysis is achieved for advanced material characterization.