



# *IIC XLDI-100* High Resolution MRI System for Materials Imaging

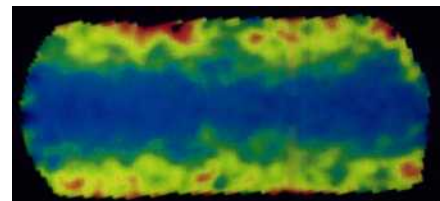
The measurement principle of the *MRXLDI-100* is similar to the clinical application of MRI, but provides the spatially resolved determination of materials parameters on the molecular scale.

## Advantages:

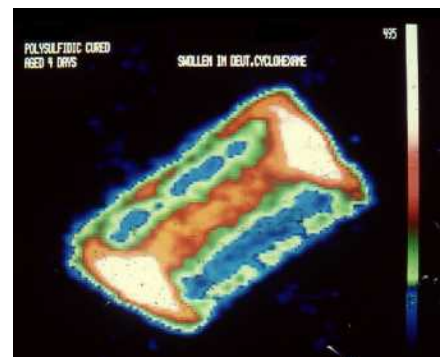
- ? 2D-, 3D-Imaging of materials parameters (*MAMI Materials Parameter Imaging*)
- ? Visualization of molecular dynamics
- ? Easy to use
- ? Designed for use in quality control and R&D lab's.

## Applications:

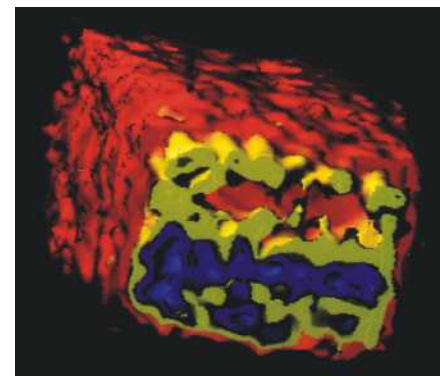
- ? Spatially resolved determination of crosslink density and other materials parameters
- ? Predictive testing on Elastomers, Polymers, and Ceramics
- ? Nondestructive investigation of aging processes in elastomers
- ? Spatially and time resolved monitoring of ingress of liquids into solid matrices
- ? Mapping of diffusion coefficients and diffusion anisotropy



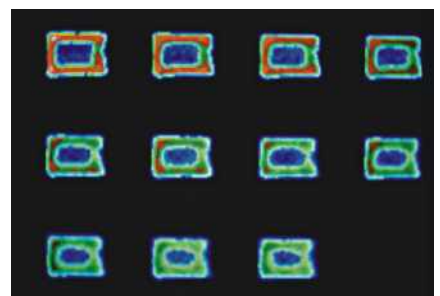
Aging of rubbers: T<sub>1</sub>-MAP-Image of a sulfur cured sample, aged for 4 days at 90°C



Aging of rubbers: NMR-Image of a sulfur cured sample, aged for 4 days at 90°C, swollen in deuterated Cyclohexane



Distribution of moisture in a semiconductor chip based on an epoxy resin matrix



Time course of solvent penetration into a rubber sample



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