

Compact NMR: Hardware, Methods and Applications

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Compact NMR machines are small and often portable or even mobile. Depending on their use for materials testing, soft matter studies, and chemical analysis, dedicated devices are employed for relaxometry, imaging, and spectroscopy. While stray-field measurements and imaging are nondestructive and can be conducted on intact objects, spectroscopy is usually applied to samples drawn from larger batches. The different types of NMR sensors are discussed along with representative pulse sequences and applications to liquids and soft matter, polymers, biological tissue, porous materials, and objects of cultural heritage.