

## **Miniaturized NMR and MRI**

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Magnetic Resonance has been traditionally associated to bulky and expensive hardware. With the development of new materials and techniques, miniaturization opens up new opportunities for innovation and extends the application of Magnetic Resonance in other fields of modern science, industry and technology. We will be describing a general framework for the design of permanent magnets for portable NMR and MRI applications. Selected prototypes have been built and will be presented in terms of spectral and spatial resolution. Further developments in micro-fabrication of spinning detectors will be shown in the light of applications of solid-state NMR in metabolomics and cell imaging.