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## **ACCEPTED MANUSCRIPT**

## Radiofrequency fields in MAS solid state NMR probes

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#### Highlights

- Three-dimensional analysis of radiofrequency field homogeneity of a solenoid coil
- Rotational modulations of radiofrequency amplitude and phase induced by magic angle spinning
- Simulations of nutation and cross-polarization experiments
- Experimental determination of radiofrequency field distribution by nutation, rotary resonance recoupling and cross-polarization experiments

Keywords: solid state NMR, solenoid coil, radiofrequency field inhomogeneity, magic angle spinning, radiofrequency amplitude and phase modulation, nutation experiment, cross-polarization,

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