Application of 119Sn CPMG MAS NMR for Fast Characterization of Sn Sites in Zeolites with Natural 119Sn Isotope Abundance - DTU Orbit (23/01/2019)

119Sn CPMG MAS NMR is demonstrated to be a fast and efficient method for characterization of Sn-sites in Sn-containing zeolites. Tuning of the CPMG echo-train sequence decreases the experimental time by a factor of 5–40 in the case of as-synthesized and hydrated Sn-BEA samples and by 3 orders of magnitude in the case of dehydrated Sn-BEA samples as compared to conventional methods. In the latter case, the reconstruction of the quantitative spectrum without the loss of sensitivity is shown to be possible. The method proposed allows obtaining 119Sn MAS NMR spectra with improved resolution for Sn-BEA zeolites with natural 119Sn isotope abundance using conventional MAS NMR equipment.

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