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Three- and five-quantum ^{17}O MAS NMR of forsterite Mg_2SiO_4

SHARON E. ASHBROOK,¹ ANDREW J. BERRY,² AND STEPHEN WIMPERIS^{1,*}

¹Physical Chemistry Laboratory, University of Oxford, South Parks Road, Oxford OX1 3QZ, U.K.

²Research School of Earth Sciences, Australian National University, Canberra ACT 0200, Australia

ABSTRACT

Three- and five-quantum ^{17}O MAS NMR experiments are used to resolve fully the three crystallographically distinct oxygen species in forsterite (Mg_2SiO_4). The chemical shift and quadrupolar parameters extracted from these spectra are compared with the literature values obtained using conventional ^{17}O MAS and dynamic-angle-spinning (DAS) NMR.