

## Local structure and dynamics of an icosahedral quasicrystal and its 1/1 approximant from Solid-State NMR

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In contrast to X-rays/Coherent neutron techniques that mainly measure space-time correlation functions of all atoms in the reciprocal space, solid-state NMR is a local probe that is very sensitive to short-ranged structural patterns and dynamics, with atomic selectivity. Moreover, it is recognized that both techniques are complementary to understand structure and dynamics at different time-scales. Both benefit from Large Scale Facilities (synchrotron, high field NMR, neutron reactors ...) allowing unprecedented space-time resolution.

In this presentation, we discuss how solid-state NMR experiments can shed light on structural organization, instabilities and dynamics in complex molecular systems. In particular, <sup>45</sup>Sc solid state NMR experiments on the 1/1 approximant Zn<sub>6</sub>Sc and quasicrystal ZnScAg at different fields and temperatures are reported, and discussed in complementarity to available structural studies.

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