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### *100 kHz magic-angle spinning NMR: a revolution through fast revolutions*

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Aula G, Dipartimento di Scienze Chimiche  
Via Marzolo 1 - Padova



**Abstract:**

*Building on a decade of continuous advances of the community, the recent development of very fast magic-angle spinning (MAS) probes capable of frequencies of 100 kHz and higher has revolutionised the field of solid-state NMR. In combination with ultrahigh magnetic field, this technology opened up a series of new ways to characterise insoluble samples, in a non-crystalline or poorly crystalline state. Today, rapid "fingerprinting" by proton detection is possible with so far unprecedented resolution, previously hampered by line broadening due to strong dipolar interactions. Specifically, fast MAS can sufficiently narrow the proton resonances so that proton-detected correlation spectra can be acquired and assigned without the need of homonuclear decoupling or proton dilution.*

*This talk reviews the strategies underlying this recent leap forward in sensitivity and resolution, describing its potential for the detailed characterization of functional materials, pharmaceuticals, and biomolecular solids, such as non crystalline protein assemblies, viral capsids, or membrane proteins in lipid bilayers.*

La presenza della S. V. sarà molto gradita.

**Prof. Michele Maggini**  
Direttore del Dipartimento  
di Scienze Chimiche

