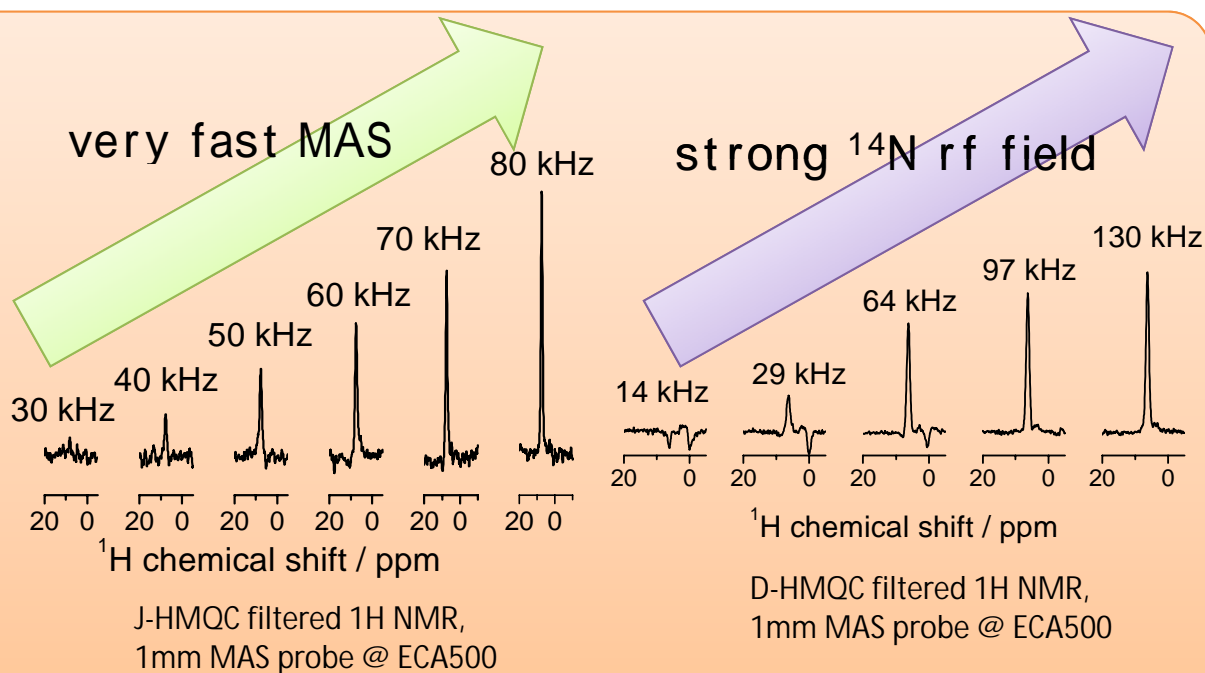


## A new field of solid-state NMR by very fast MAS: How to enhance sensitivity in $^{14}\text{N}$ NMR by 1 mm MAS

The key to high sensitivity in  $^{14}\text{N}$  NMR is described. 1 mm MAS system realizes sub-micro liter sample data collection of  $^1\text{H}$ - $^{14}\text{N}$  HMQC NMR with high sensitivity and high resolution (Y. Nishiyama, et al., JMR in press, JEOL application note NM100003E). Very fast MAS rate and strong rf field, both of which are realized by 1 mm MAS system greatly enhance the sensitivity. The former enhances  $T'_2$  of  $^1\text{H}$  leading to reduction of  $T'_2$  decay and the latter achieves efficient excitation of  $^{14}\text{N}$  spins.



Y. Nishiyama, Y. Endo, T. Nemoto, H. Utsumi, K. Yamauchi, K. Hioka, T. Asakura, J. Magn. Reson. in press.



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