TUTORIAL ON SELECTIVE EXCITATION

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Most radiofrequency pulses used in Fourier transform NMR experiments rely on a uniform excitation of all signals across the whole spectral window. However, for several reasons the selective excitation of individual signals or spectral regions is necessary. A number of techniques have been established to achieve such a frequency selective excitation, using either trains of high power (hard) pulses or shaped low power (soft) pulses.[1,2] This tutorial talk describes the use of selective pulses for various applications like excitation, refocusing, transforming multidimensional spectra to 1D counterparts or restricting the magnetization transfer pathway. With the use of selective pulses, homonuclear experiments can be carried out in a way that is otherwise only possible in heteronuclear spectroscopy.

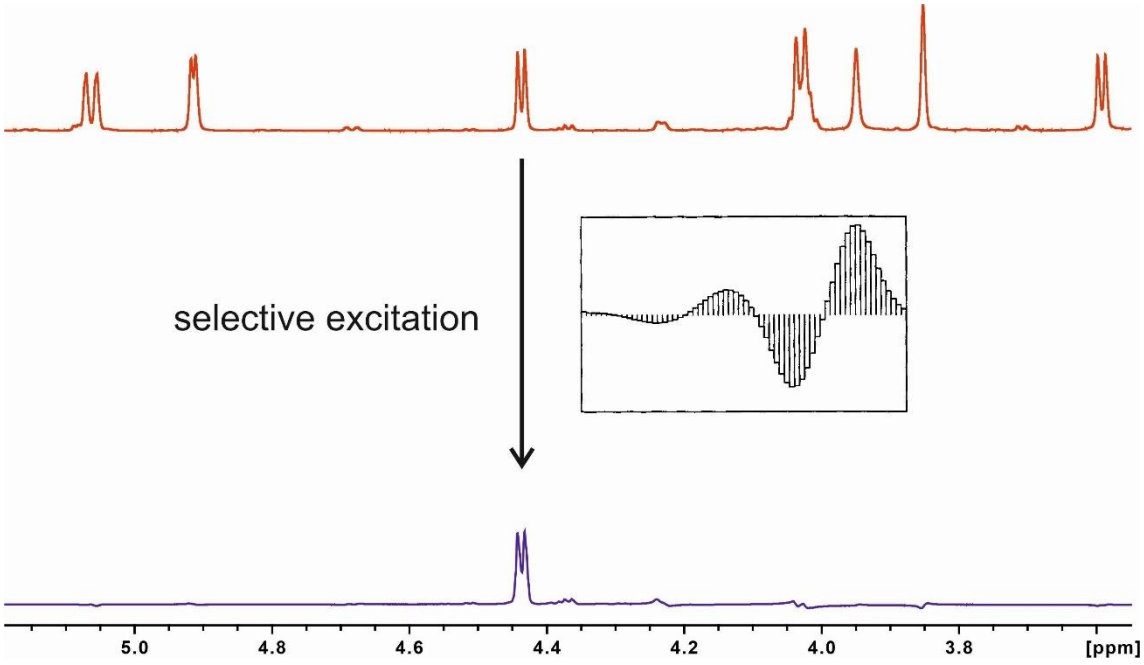

Figure 1. Selective excitation

REFERENCES

[1] H. Kessler, S. Mronga, G. Gemmecker, *Magn.Reson.Chem*. **1991**, *29*, 527–557.

[2] R. Freeman, *Chem. Rev.* **1991**, *91*, 1397–1412.