

2-D NMR Requires Transfer of Magnetization from One Nucleus to Another:  $I \rightarrow S$

This "Mixing" can be induced by:

①  $R_f$  Pulses at the Frequency of Both Nuclei:

Coherence (x,y-magnetization)  
Transfer ( $J_{IS}$ )

② A Delay without Pulses

Z-magnetization Transfer  
(NOE)

Every 2-D crosspeak is a correlation of Two Nuclei which results from Magnetization Transfer.