2D Data Processing

- The 2D Spectrum is a Matrix of Data Values:
  
e.g., 1024 Rows x 2048 Columns

- Each 1D FID is Fourier Transformed and the 1D Spectrum (the F_2 Spectrum) is Loaded into a Row (from Bottom Row Up Increasing t_1 Values)

- The Columns Represent FIDs in the Artificial Time Dimension t_1

- The Frequency of the FID is the Chemical Shift of Nucleus I That was Recorded During the t_1 Delays

- Each Column is Fourier Transformed to Give an F_1 Spectrum Running from Bottom to Top

- The Column at the F_2 Chemical Shift of S Now Has a Peak at the F_1 Chemical Shift of I: A “Crosspeak”

- Intensity of the Crosspeak Depends on the Efficiency of Transfer of Excitation I to S
  
  - For J Coupling Based Transfer, the Efficiency is Greater for Larger J Couplings
  
  - For NOE Based Transfer, the Efficiency is Greater for Smaller Distance (1 / r^6 Dependence)