How do we Interpolate between Impedance points?

In order to interpolate effectively and accurately we have to understand well the physical behaviour of the tuners. From the commercially available Tuner Systems only the FOCUS systems include efficient interpolation algorithms. FOCUS tuners are calibrated at distinct impedance points regularly distributed over the Smith Chart. A second order Lagrange Interpolation algorithm is used between 9 adjacent calibrated points to accurately compute the Reflection and Transmission S-parameters of the Tuner-Twoport at any position of the RF probe. The resulting tuning accuracy averages about 0.001 reflection factor units. *For more information on FOCUS impedance interpolation please download Application Note 15 and check pages 6 and 7.*