



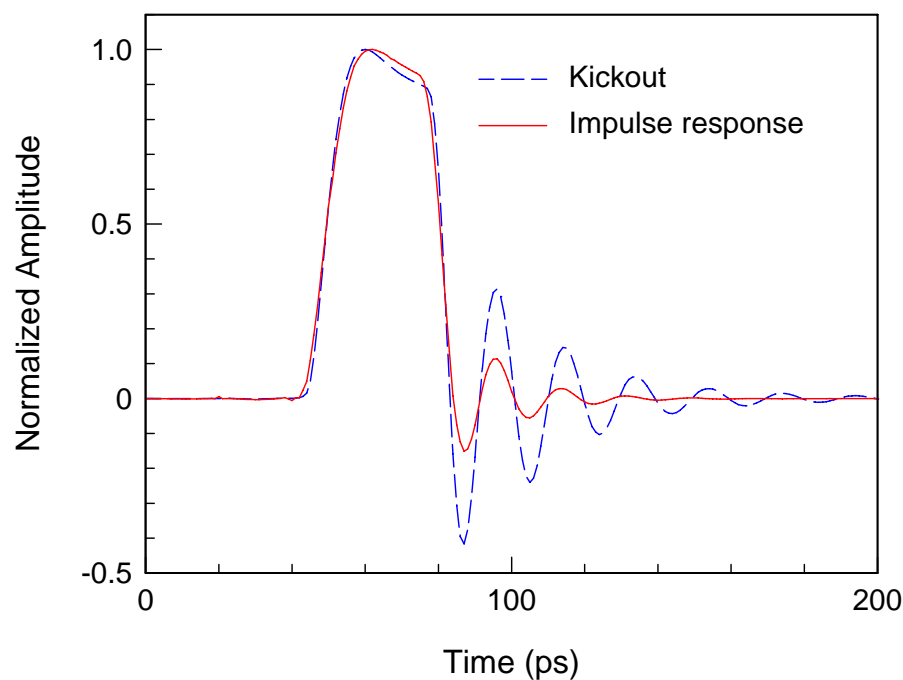
Systematic Error of the Nose-to-Nose Sampling-Oscilloscope Calibration

Dylan F. Williams, Tracy S. Clement,
Kate A. Remley, Paul D. Hale, and
Frans Verbeyst

[D. F. Williams, T.S. Clement, K. A. Remley, P. D. Hale, and Frans Verbeyst, "Systematic error of the nose-to-nose sampling oscilloscope calibration," *IEEE Trans. Microwave Theory Tech.*, vol. 55, no. 9, Sept. 2007, pp. 1951-1963.](#)

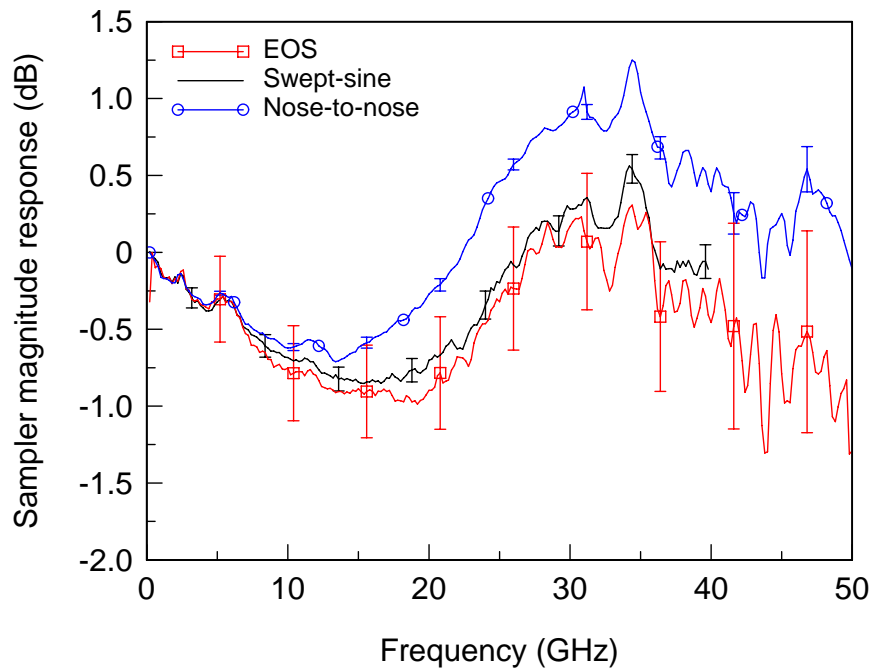


SPICE Simulations

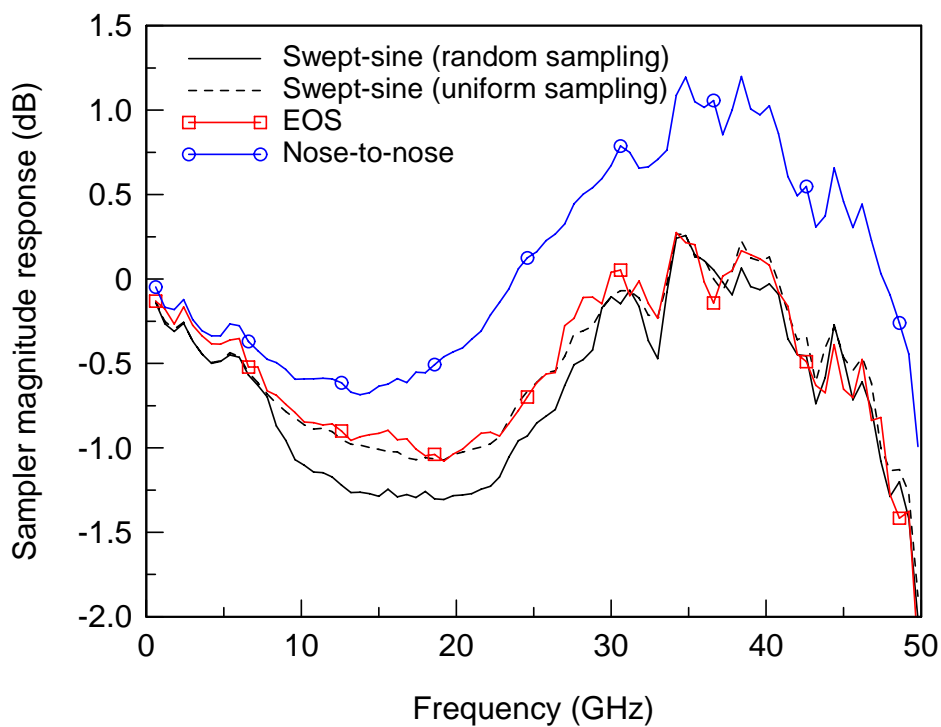




NIST Magnitude Measurements



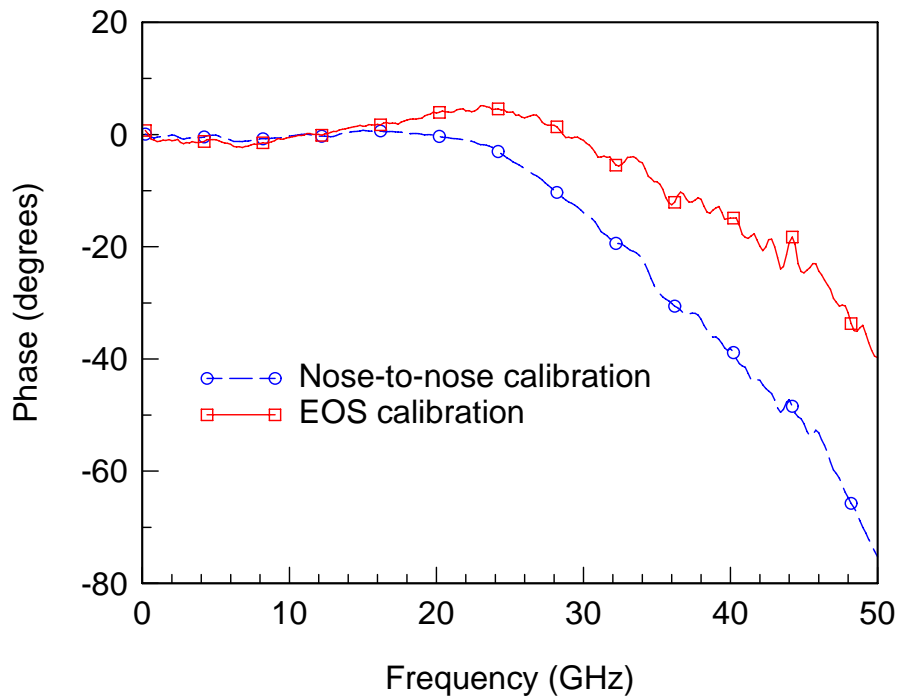
NMDG Magnitude Measurements



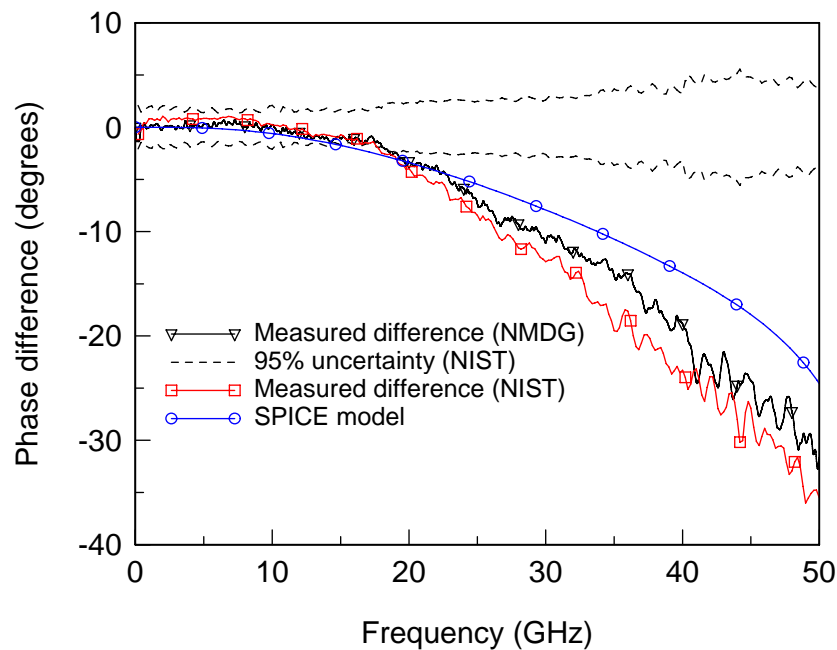
(EOS measurements based on NIST photodiode)



NIST Phase Measurements



Measurements and SPICE Models



(SPICE models indicated that underlying cause of deviation was nonlinear capacitance)