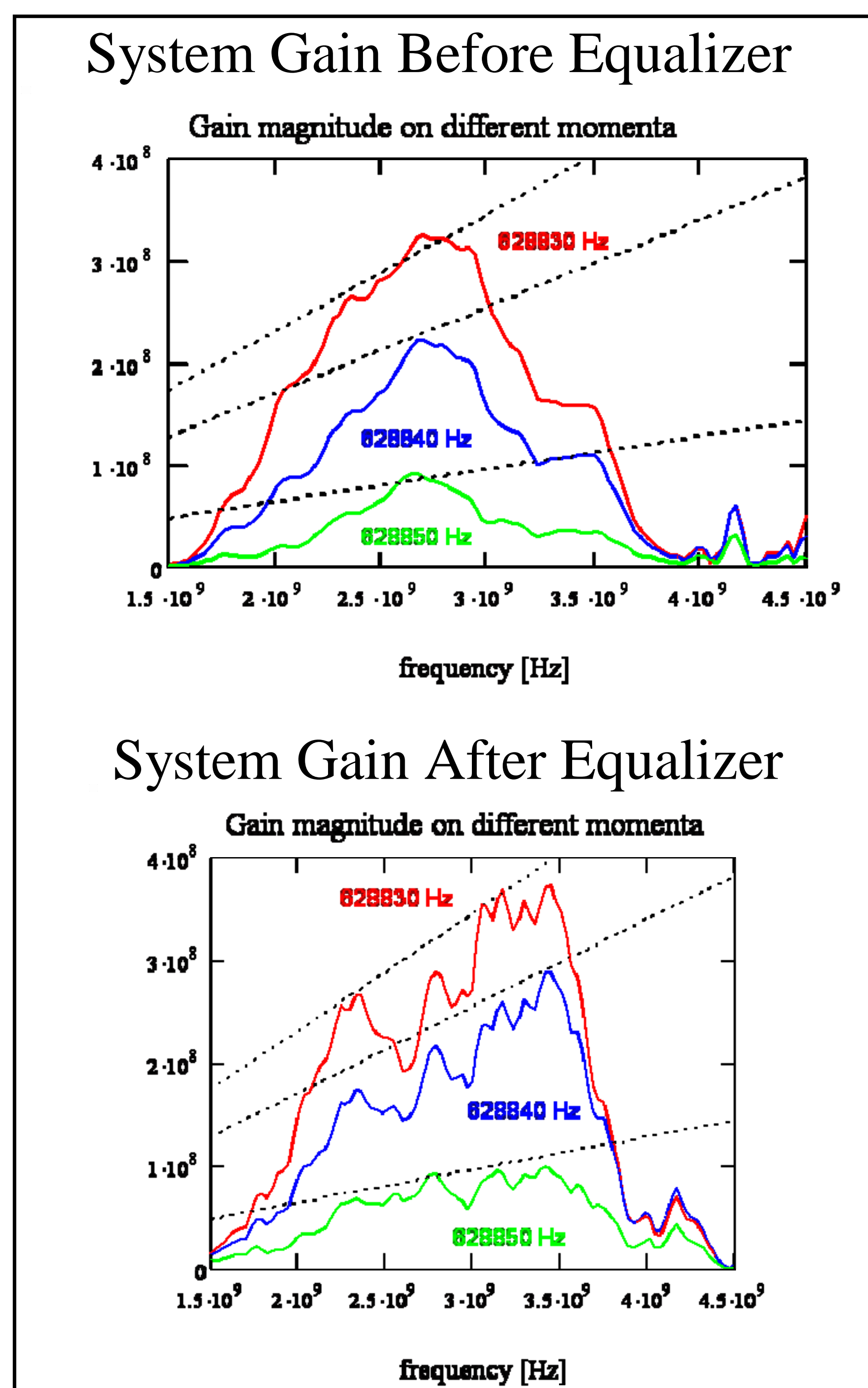
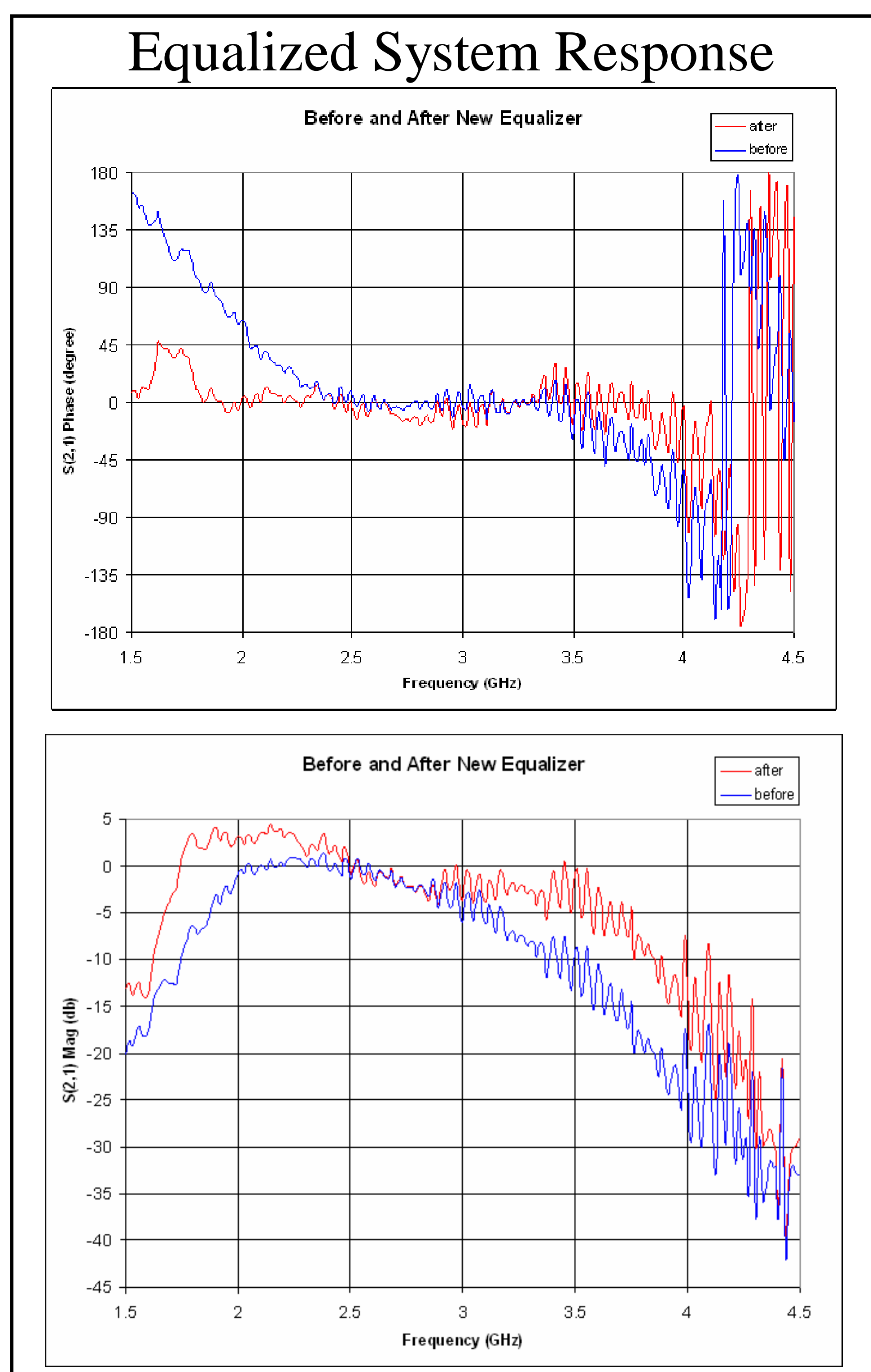
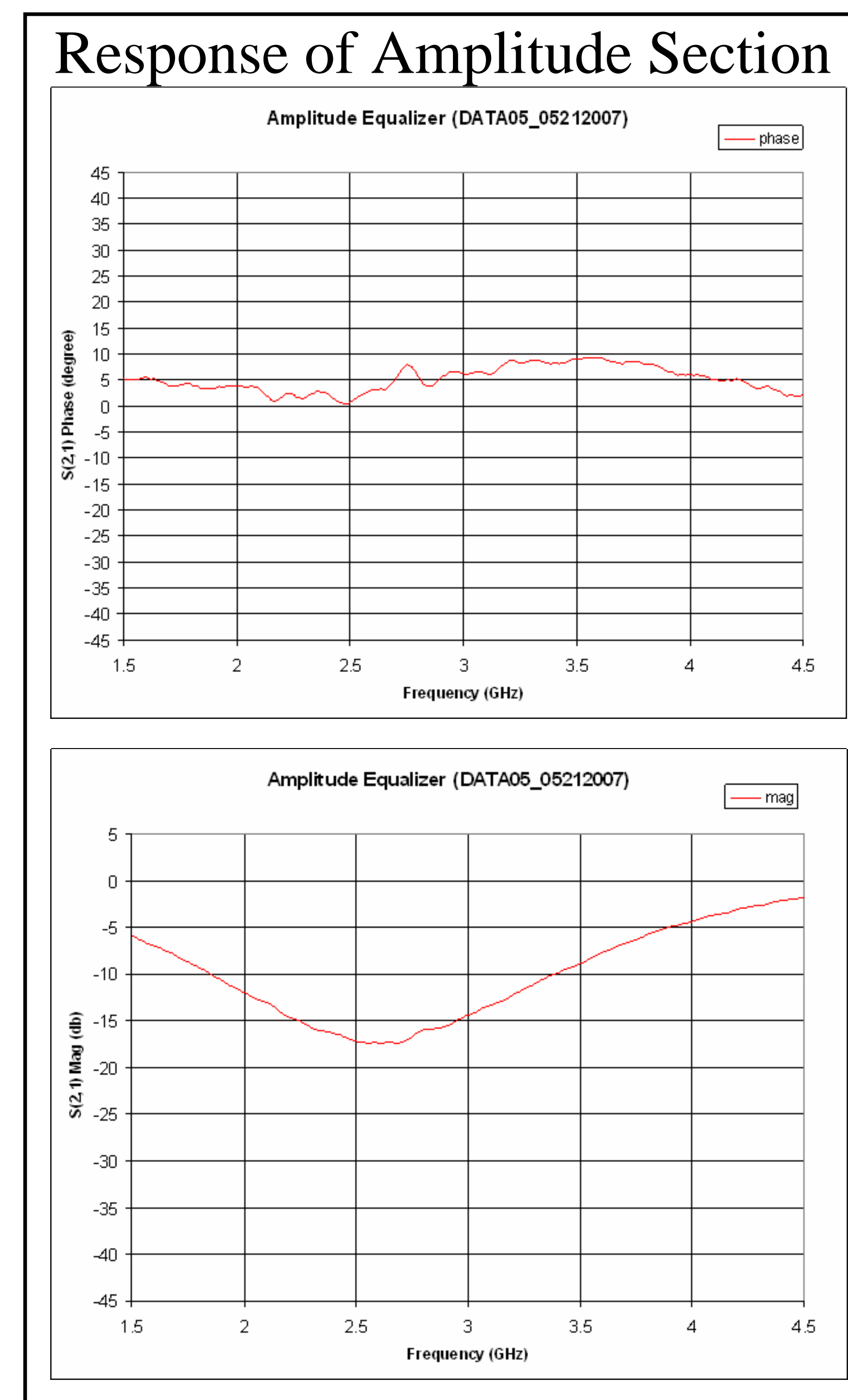
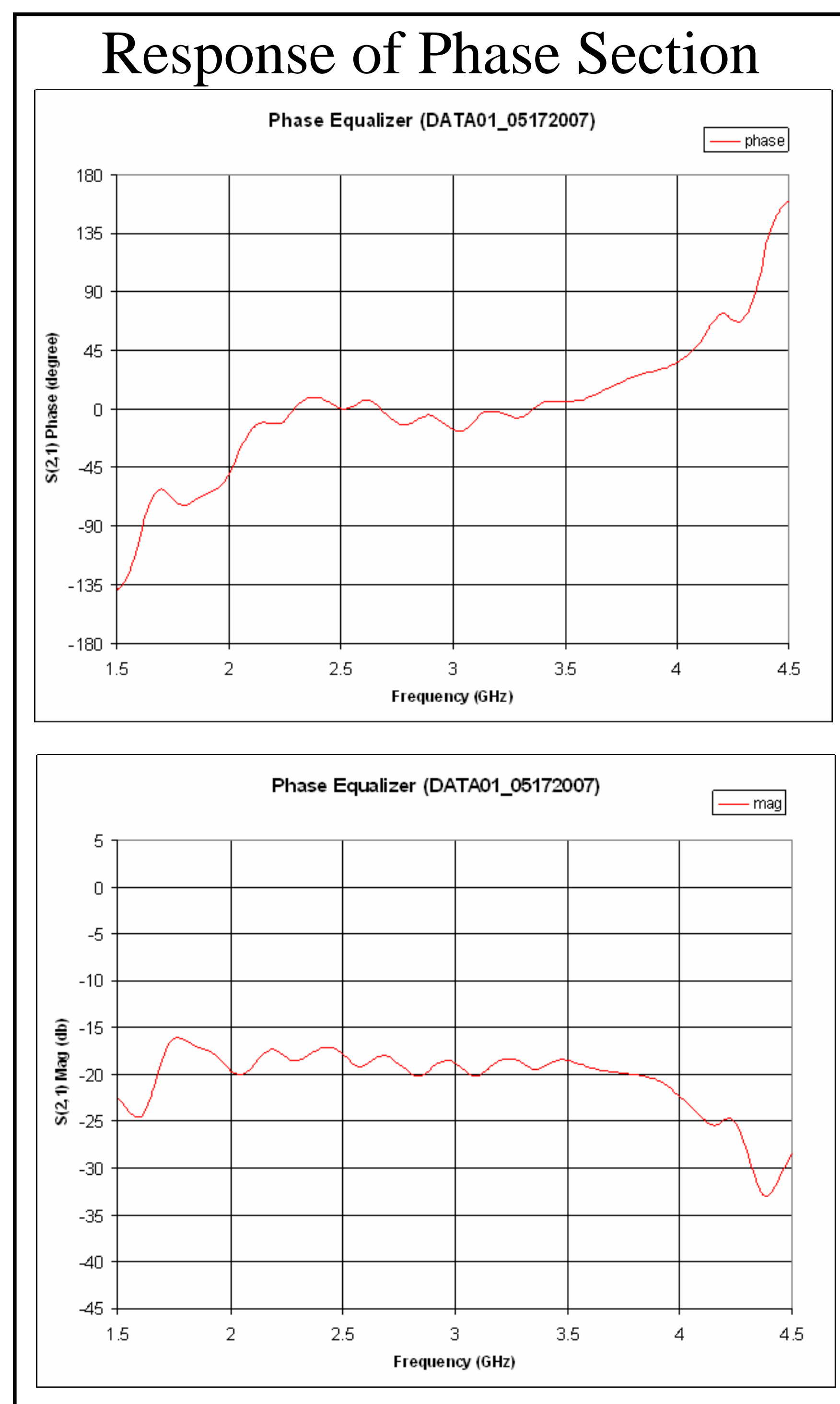
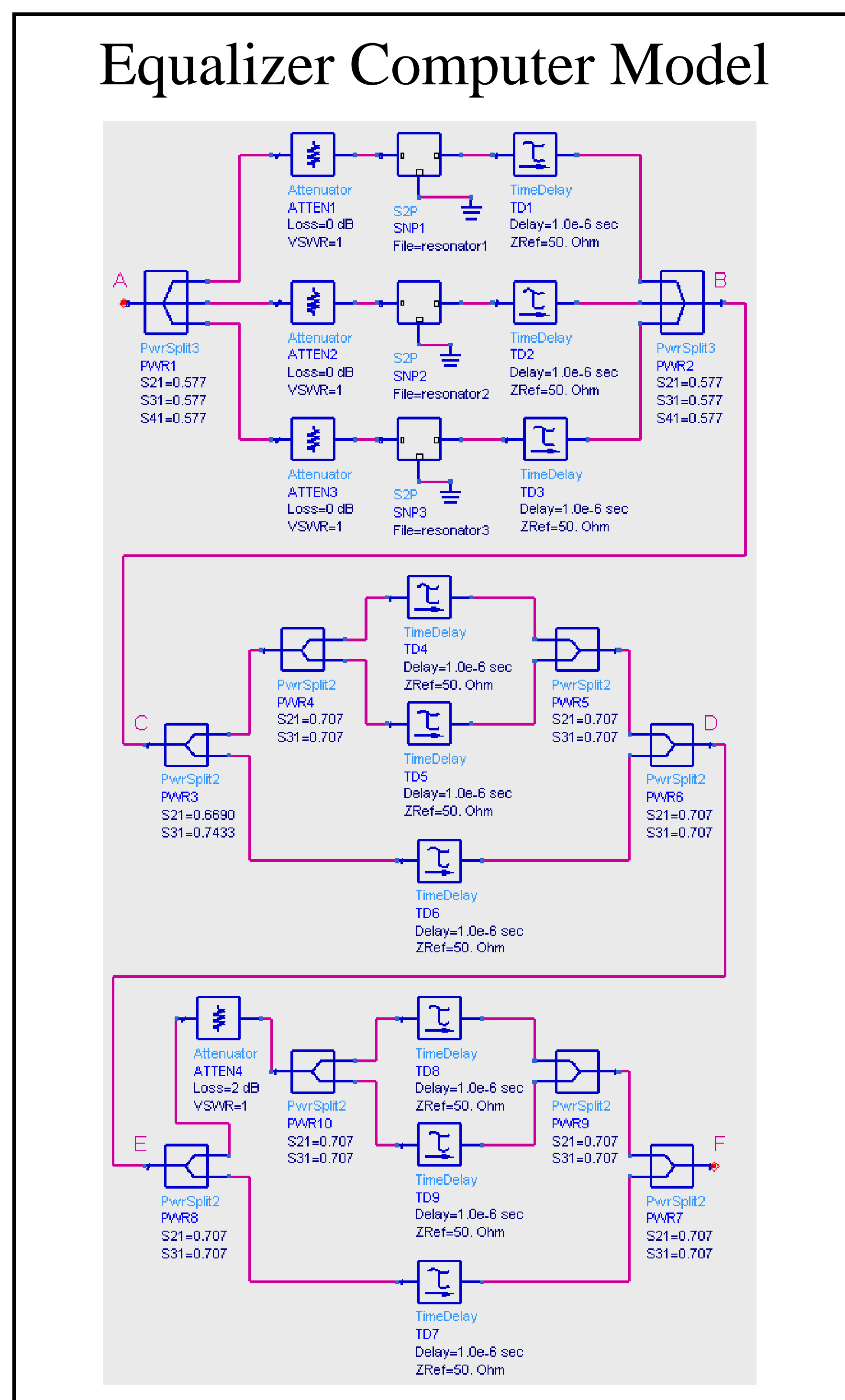


NEW EQUALIZERS FOR ANTIPROTON STOCHASTIC COOLING AT FERMILAB *

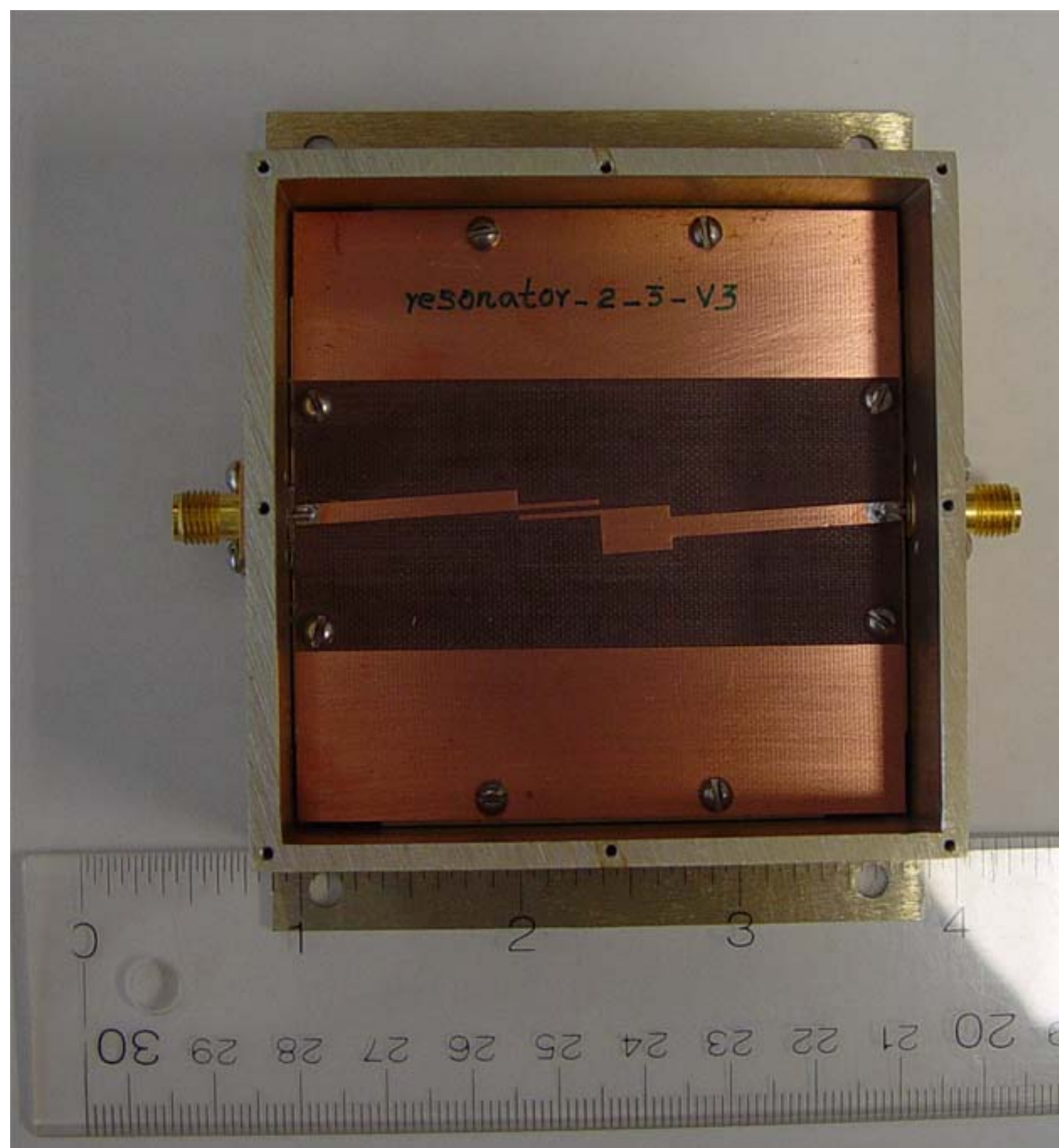
Ding Sun, Valeri Lebedev, Ralph J. Pasquinelli
Fermilab, Batavia, Illinois, USA

Abstract

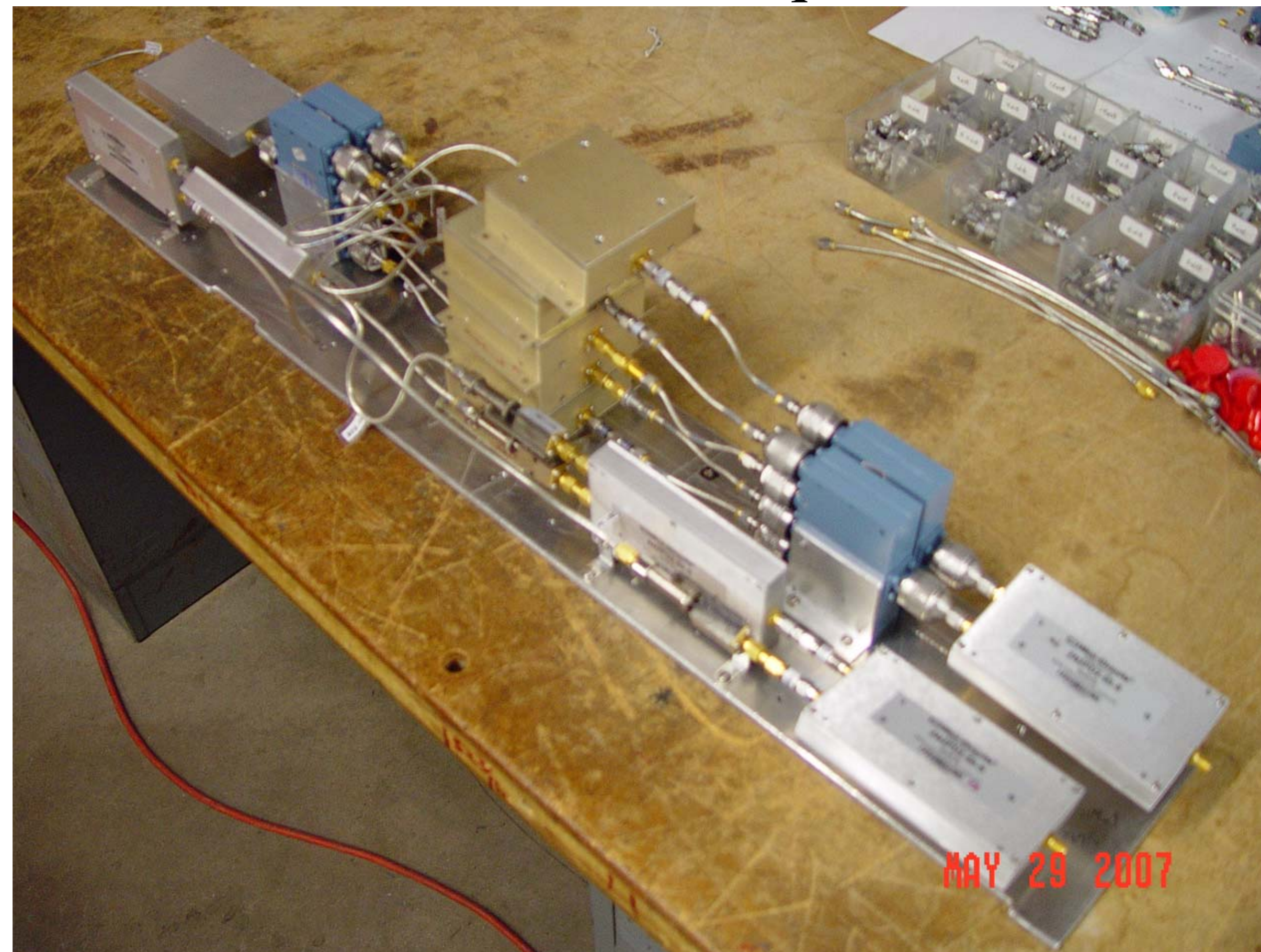
Equalizers are used in Fermilab antiproton stochastic cooling to compensate frequency response of the cooling system. Usually both amplitude and phase compensations are needed. However in most cases it is difficult to achieve a satisfactory compensation for both because of their interdependence. To make it more difficult is that in some cases large compensations (10 to 20 db of amplitude compensation or more than 100 degree of phase compensation) are needed near the low or high ends of a frequency band. Recently a new compensation scheme of equalizers is proposed for Fermilab antiproton accumulator. This scheme originated from the requirement to maximize the system performance resulting in a request for the phase of the cooling system transfer function to be extremely flat. For this kind of phase correction, a new type of equalizers has been developed.



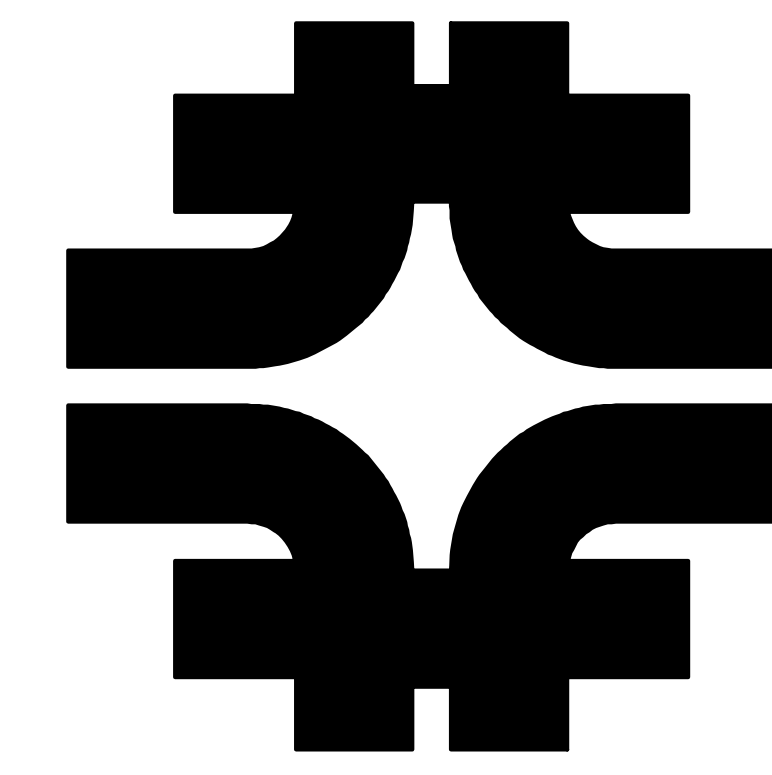
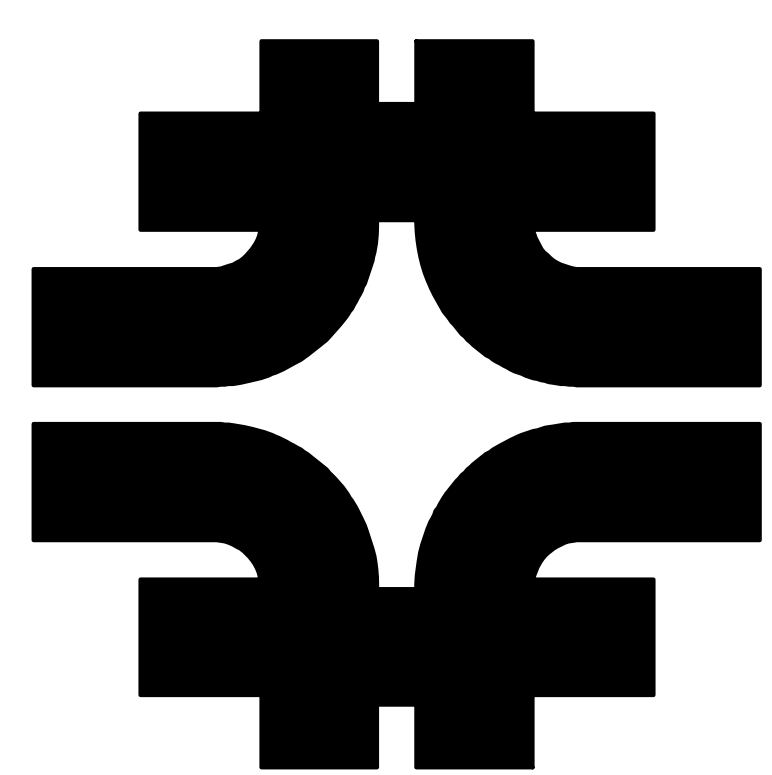
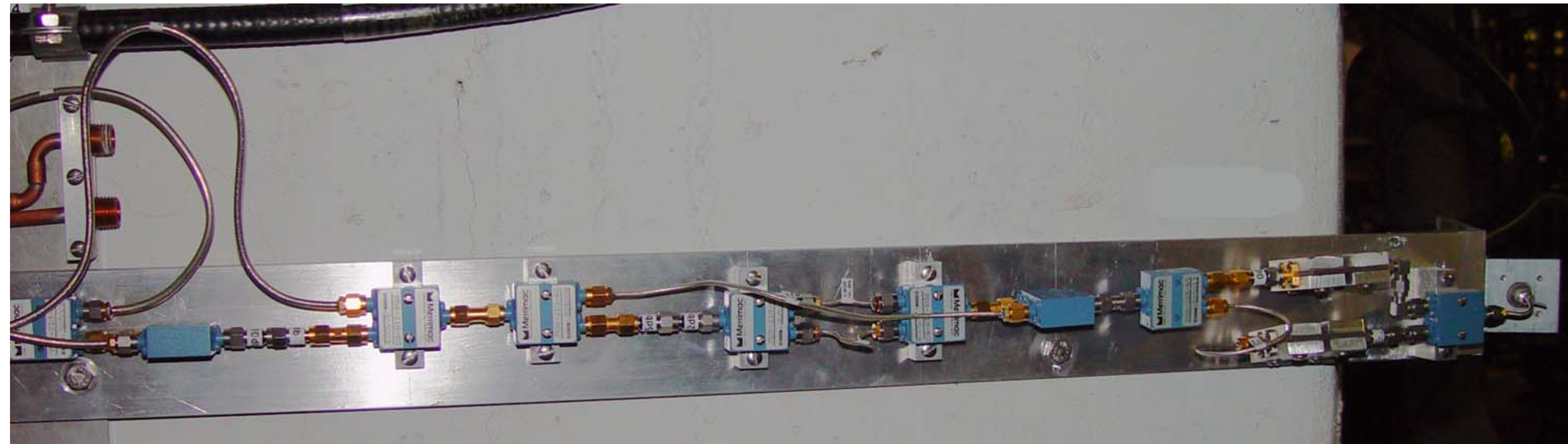
Typical Resonator Section



Stacktail 2-4GHz Equalizer



Core 4-8GHz Momentum Equalizer



*Work supported by Fermi Research Alliance under contract to the US Department of Energy.