Equivalent Circuit Analysis Of The SLAC Damped Detuned Structure, R. JONES[#], K. KO[#], SLAC, N.M. KROLL[##], SLAC & UCSD, R.H. MILLER[#] & K.A. THOMPSON[#], SLAC - An accelerating structure designed as described previously [1] is nearing completion. An equivalent circuit analysis, elaborated to take account of both the lower two dipole bands and the nonuniform properties of the damping manifolds, has been carried out. The equivalent circuit has nine parameters per cell, determined by matching the dispersion curves of the three lowest modes (two dipole modes plus the manifold mode) as computed by MAFIA. This procedure is carried out for eleven selected cells, after which interpolation is used to determine the parameters for the remaining 195 cells. Because the manifold-cell coupling is strong, a numerically challenging non-perturbative treatment is required. Wakefield and other results will be presented.

[1] K. Ko, et al, Design Parameters for The Damped Detuned Accelerating Structure, SLAC-PUB-95-6844, To appear in PAC95 Proceedings.

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