1011-93-126          **Scott Hansen\*** (`shansen@math.iastate.edu`), Department of Mathematics, Iowa State
University, Ames, IA 50011, and **George Avalos**. *Analyticity and Stability of Semigroups of*
*Multilayer Mead-Markus Beam and Plate Models.*

The classical sandwich beam model of Mead and Markus was the first variationally consistent beam model to explain a number of vibrational properties of composite structures that are not seen in homogeneous models, e.g., the "constrained layer damping" effect that is utilized in many applications. Here we describe a more general version (for $n$ layers) of the sandwich beam (or plate) model and describe some stability results for the beam/plate system. In particular, for the case of a beam with hinged boundary conditions, analyticity of the underlying semigroup can be proved. In the case of a plate, strong stability holds. Related results are described. (Received August 22, 2005)