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Matthias Eller* (mme4@georgetown.edu), Department of Mathematics, Georgetown University, Washington, DC 20057. *Shape optimization for hyperbolic boundary problems with conservative boundary conditions.*

A shape optimization problem for some hyperbolic systems with conservative boundary conditions is considered. The differentiability of a shape functional is established under minimal regularity assumptions on the data. Examples are the wave equation with Neumann boundary conditions and Maxwell's equations with the perfect conductor condition. (Received September 14, 2010)