1104-53-321 **Barbara A. Shipman***, bshipman@uta.edu, and **Patrick D. Shipman** and **Stephen P. Shipman**. *Geometry of Lorentz-Conformal Transformations in the Plane.*

While conformal transformations of the plane preserve Laplace's equation, Lorentz-conformal mappings preserve the wave equation. In dimension 1+1, Lorentz-conformal mappings take on a simple form, allowing for lucid analysis of their geometry. Squares are transformed into curvilinear quadrilaterals where three sides determine the fourth by a geometric "rectangle rule" that can be expressed also by functional formulas. Another rectangle rule governs pairs of crossing curves that can be mapped to intersecting coordinate lines. We characterize classes of Lorentz-conformal mappings by their symmetries under subgroups of the dihedral group of order eight. Unfoldings of non-invertible mappings into invertible ones are reflected in a change of the symmetry group and in different "colorings" of the contour plot. The questions are simple; but the answers are not obvious, yet have beautiful geometric, algebraic, and functional descriptions and proofs. (Received September 03, 2014)