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Beyza Aslan* (beyza.aslan@unf.edu), University of North Florida, Department of Mathematics and Statistics, 1 UNF Dr., Bldg 14/2731, Jacksonville, FL 32224, and **William Hager**. *The Change in Electric Potential due to Lightning*.

The change in the electric potential due to lightning is evaluated using Maxwell's equations. The potential along the lightning channel is a constant which is the projection of the pre-flash potential along a piecewise harmonic eigenfunction which is constant along the lightning channel. The change in the potential outside the lightning channel is a harmonic function whose boundary conditions are expressed in terms of the pre-flash potential and the post-flash potential along the lightning channel. The expression for the lightning induced electric potential change is derived both for the continuous equations, and for a spatially discretized formulation of the continuous equations. (Received September 03, 2009)