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William Hager (hager@math.ufl.edu), University of Florida, Department of Mathematics, 358 Little Hall, Gainesville, FL 32611. *The Change in Electric Potential due to Lightning.*

The change in the electric potential due to lightning is evaluated. The potential along the lightning channel is a constant which is the projection of the pre-flash potential along a piecewise harmonic eigenfunction that 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 for the continuous equations. (Received September 01, 2008)