

Twenty-Five Years of Potential-Based Electromagnetics

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In the academic year 1975-1976 Chalmers M. Butler visited the University of Arizona during a sabbatical and had a profound impact on the authors, who were in Arizona's electromagnetics group at that time. This paper takes a look back at the work ongoing at that time and traces Professor Butler's influence on the authors through the past 25 years in solving computational electromagnetics problems. Topics touched on include use of the potential solution to avoiding confusion on singularities in the electric dyadic Green's function, the problem of a grounding rod penetrating the air-earth interface, a horizontal wire above the air-earth interface, dual series techniques used to benchmark the accuracy of "Mississippi-style computational electromagnetics", sample problems run with Patch (a frequency domain code developed in the 1980's), and EIGER (an object oriented frequency domain electromagnetics code).

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