

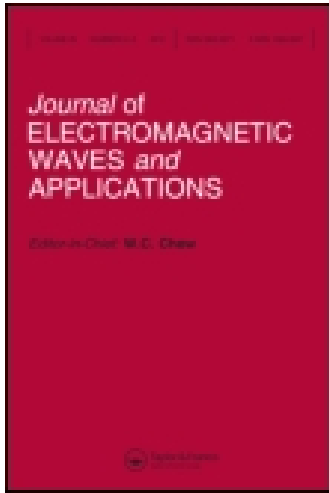
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Polynomial Operators and Green Functions - Abstract

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POLYNOMIAL OPERATORS AND GREEN FUNCTIONS

– Abstract *

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Abstract—Green functions corresponding to various polynomial partial differential operators of second, fourth and higher order are derived and the results are collected in tabular form for quick reference. The results and the methods suggested for their derivation are of importance in solving electromagnetic field problems associated with various linear (bi-anisotropic) media.

- 1. Introduction**
- 2. Green Functions**
- 3. Evaluation of some Green functions**
 - 3.1 Second-Order Operators
 - 3.2 Fourth-Order Operators
 - 3.3 Higher-Order Operators
 - 3.4 Factorized Fourth-Order Operator
 - 3.5 Factorized higher-Order Operators
- Appendix. Table of Green Functions**
 - A.1 Second-Order Operators $L(\nabla)$
 - A.2 Fourth-Order Operators $L(\nabla)$

* The complete text appears in *Progress In Electromagnetics Research*.

References

Ismo V. Lindell was born in 1939. In 1971, he received the Dr.Tech. (Ph.D.) degree at Helsinki University of Technology (HUT), Espoo, Finland. While being Professor of Electromagnetic Theory at the Electromagnetics Laboratory at the HUT, he presently holds the research position of Professor of the Academy of Finland. He is Fellow of the IEEE and Commission B Chairman of the URSI National Committee of Finland. Dr. Lindell has authored and coauthored scientific papers and books, for example, *Methods for Electromagnetic Field Analysis*, *Electromagnetic Waves in Chiral and Bi-Isotropic Media* and *History of Electrical Engineering*, the last one in Finnish. Dr. Lindell is the recipient of the IEEE S. A. Schelkunoff price (1987) and the IEE Maxwell Premium (both 1997 and 1998).

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