

CONNECTIONS BETWEEN THE DIRICHLET AND THE NEUMANN PROBLEM FOR INTEGRABLE BOUNDARY DATA

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We provide an explicit solution of the generalized solution of the Neumann problem for the Laplace operator, based on a representation of the solution on the unit ball in \mathbb{R}^n , $n \geq 1$, in terms of the solution of an associated Dirichlet problem, in the case of integrable boundary data. We also provide a new approach to Brosamler's formula which gives a probabilistic representation of the solution of the Neumann problem for the Laplacian in terms of the reflecting Brownian motion.

The talk is based on joint works with **Mihai N. Pascu** (Braşov, Romania) and **Nicoale R. Pascu** (Kennesaw State University, USA).