Jorgensen, Palle E. T. (1-IA); Pedersen, Steen (1-WRTS)

Commuting self-adjoint extensions of symmetric operators defined from the partial derivatives. (English. English summary)


The authors study the problem of finding commuting selfadjoint extensions of the partial derivatives \(-i(\partial/\partial x_j); j = 1, \ldots, d\) in \(L_2(\Omega)\) (\(\Omega\) is an open subset of \(R^d\)) [see, e.g., P. E. T. Jorgensen and S. Pedersen, J. Funct. Anal. 107 (1992), no. 1, 72–104; MR 93k:47005]. In this paper they give a representation-theoretic answer in the special case when \(\Omega = I \times \Omega_2\) and \(I\) is an open interval. Then these results are applied to the case \(\Omega = I^d\).  

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