



Banach J. Math. Anal. 7 (2013), no. 2, 194–207

BANACH JOURNAL OF MATHEMATICAL ANALYSIS

ISSN: 1735-8787 (electronic)

www.emis.de/journals/BJMA/

ON SELFADJOINT DILATION OF THE DISSIPATIVE EXTENSION OF A DIRECT SUM DIFFERENTIAL OPERATOR

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Communicated by L. Castro

ABSTRACT. In this paper, we describe all maximal dissipative, maximal accretive and selfadjoint extensions of the minimal symmetric direct sum differential operators. Further using the equivalence of the Lax-Phillips scattering function and the Sz.-Nagy-Foiaş characteristic function we show that all eigen and associated functions of the maximal dissipative extension of the minimal symmetric direct sum operator are complete in $L_w^2(\Omega)$, where $\Omega = \Omega_1 \cup \Omega_2$, $\Omega_1 = (0, c)$ and $\Omega_2 = (c, \infty)$.

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Date: Received: 12 July 2012; Revised: 2 January 2013; Accepted: 8 February 2013.

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2010 *Mathematics Subject Classification.* Primary 34B20; Secondary 47E05, 34B24, 34B37.

Key words and phrases. Direct sum differential operators, scattering matrix, characteristic function, spectral analysis.