

**Meeting:** 1111, Porto, Portugal, SS 17A, Special Session on Convolution Type Operators

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We study operators of the form  $W = P_2 A|_{P_1 X}$  where  $A$  is a convolution operator on the real line acting in the Lebesgue space  $L^2$  or, more generally, in Bessel potential spaces  $A : X = H^r \rightarrow Y = H^s$  with given real numbers  $r, s$ , and where  $P_1 \in \mathcal{L}(X)$ ,  $P_2 \in \mathcal{L}(Y)$  are projectors onto or along subspaces with symmetry properties such as those of even or odd functionals, or others recognized in applications. Our interest focuses on the (generalized) invertibility of  $W$ , inversion by new operator factorization techniques, based upon convenient forms of symmetry. It continues work with L.P. Castro, R. Duduchava and F.S. Teixeira started in 2003 and yields a more direct method for the solution of certain wedge diffraction problems. Some related questions are discussed such as: Equivalence between different kinds of related operators, extension problems, and constructive methods for the factorization of matrix operators.

L. Castro, F.-O. Speck and F.S. Teixeira. A direct approach to convolution type operators with symmetry. *Math. Nachrichten* 269-270 (2004), 73-85.

L. Castro, F.-O. Speck and F.S. Teixeira. Mixed boundary value problems for the Helmholtz equation in a quadrant. *Integr. Equ. Oper. Theory* 56 (2006), 1-44. (Received February 04, 2015)

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