A.A. El-Sabbagh, F.A. Abd El Salam, K.El Nagaar: On the Existence of the Selfadjoint Extension of the Symmetric Relation in Hilbert Space; Helsinki University of Technology, Institute of Mathematics, Research Reports A538 (2007).

Abstract: Given a symmetric relation in a Hilbert space, then one can consider its selfadjoint extension as the Krein space. We show that selfadjoint Krein space extension plays a natural role in certain boundary value problems. We will show that boundary value problems with eigenvalues, depending boundary conditions are linearized.

AMS subject classifications: 47A20

Keywords: Symmetric Operator, Symmetric Relation, Hilbert Space, Perturbing Case, Selfadjoint Extensions, Krein Space.

Correspondence

Department of Mathematics Faculty of Engineering Benha University, Shoubra, 108 Shoubra Street Cairo, Egypt.

alysab1@hotmail.com.

ISBN 978-951-22-9160-1 (pdf) ISBN 978-951-22-9159-5 (print) ISSN 0784-3143 Teknillinen korkeakoulu, Finland 2007

Helsinki University of Technology Department of Engineering Physics and Mathematics Institute of Mathematics P.O. Box 1100, FI-02015 TKK, Finland email:math@tkk.fi http://math.tkk.fi/