

On indefinite quadratic forms

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In this talk we revisit the representation theorems for sign-indefinite, not necessarily semibounded symmetric sesquilinear forms. In particular, we discuss new straightforward proofs of these theorems and a number of necessary and sufficient conditions ensuring the second representation theorem to hold. Furthermore we present a new simple and explicit example of a self-adjoint operator for which the second representation theorem does not hold is also provided. The talk is based on a joint work with L. Grubišić, K. A. Makarov, and K. Veselić.