

Forms on inner product spaces

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Abstract

This seminar aims to give an introduction on forms on inner product spaces and their relation to linear operators. After briefly recalling some basic concepts from the theory of linear operators on inner product spaces, we will focus on the space of forms on a real or complex finite-dimensional vector space V and show that it is isomorphic to the space of linear operators on V . We will also describe the matrix representation of a form w.r.t. an ordered basis of the space on which is defined, giving special attention to the case of forms on finite-dimensional complex inner product space and in particular to Hermitian forms.