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MATRIX FORMULATION FOR INFINITE–RANK OPERATORS

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Abstract. Every finite-rank operator on a linear space X is the composition of an operator from X to a finite dimensional Euclidean space and of an operator from that Euclidean space to X. We consider operators which are the sum of a finite-rank operator and another infinite-rank operator which satisfies an invariance condition with respect to one of the two 'components' of the finite-rank operator. A canonical procedure is given to reduce operator equations, eigenvalue problems and spectral subspace problems involving such operators to corresponding problems for finite matrices.

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