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## A SETTING FOR GENERALIZED ORTHOGONALIZATION

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*This paper is dedicated to Professor Tsuyoshi Ando, with affection and admiration*

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ABSTRACT. Let  $\mathcal{H}$  be a complex Hilbert space. We study the geometry of the space of pairs  $(A, E)$ , for  $A$  a (semidefinite bounded linear) positive operator on  $\mathcal{H}$  and  $E$  a (bounded linear) projection on  $\mathcal{H}$  such that  $AE = E^*A$ .

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