Title:	Reversibility of Linear and Affine Transformations.
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Abstract:	Let D be either R, C, or the real quaternion H. Reversible elements in a group are those elements that are conjugate to their own inverses. Such elements appear naturally in different branches of mathematics. They are closely related to strongly reversible elements, which can be expressed as a product of two involutions. A strongly reversible element in a group is reversible, but the converse is not always true. Classifying reversible and strongly reversible elements in a group has been a problem of broad interest. My thesis primarily focuses on investigating this problem in the context of the isometry group of Hermitian spaces over C and H, as well as the general linear groups, the special linear groups, and the affine groups. More precisely, we have classified reversible and strongly reversible elements in the following groups: 1. Sp(n) □ H n , U(n) □ C n , and SU(n) □ C n , 2. GL(n, D), 3. GL(n, D) □ D n , 4. SL(n, C) and SL(n, H).
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