REGULAR FLOWS AND RELATIVELY
REGULAR RELATIONS

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In this dissertation, we study in some more detail the properties of the regular transformation groups and the strongly proximal transformation groups in comparison with the properties of proximal transformation groups. And then we define the new concepts of relatively regular relations and S-sets using the regularity and study some their properties. The detailed outcomes of this study are summarized as follows:

In chapter I, we review basic concepts and properties needed for understanding this paper.

In chapter II, we investigate the properties of regular transformation group in order to generalize the properties of proximal transformation group.

In chapter III, we study the strongly proximal transformation groups which have more strong conditions than proximal transformation groups. Based on these results we could show that the class $S(T)$ of strongly proximal minimal sets with phase group T is a complete sublattice of the lattice $R(T)$ of regular minimal sets with phase group T.

In chapter IV, we introduce the concept of relatively regular relations which is a generalization of relatively proximal relations in transformation groups and investigate their some properties. Moreover, we find the necessary and sufficient conditions for the relatively regular relation to be an equivalence relation.

In chapter V, we introduce $S(X, x_0)$ which is a generalization of Ellis group $G(X, x_0)$, and S-sets in $S(X, x_0)$. And then we investigate some properties of them. In particular, we find the sufficient condition for the group $A(I)$ of all automorphisms of I and $K = Iu$ to be

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isomorphic, where I is a minimal right ideal and u is an idempotent of I.

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