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PERTURBATION OF INFINITESIMAL GENERATOR IN SEMIGROUP OF LINEAR OPERATOR

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Abstract: This paper consists of results on contraction semigroups thereby considering ω-order reversing partial contraction mapping (semigroup of linear operator) as the infinitesimal generator of the semigroup on perturbation by bounded linear operators which we will show that the addition of a bounded linear operator B to an infinitesimal generator A of a semigroup of linear opearator does not destroy the property of A.

Keywords and Phrases: ω-$ORCP_n$, C_0-Semigroup, Contraction Semigroup, Perturbation.

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1. Introduction

Let X be a Banach space, $X_n \subseteq X$ be a finite set, $(T(t))_{t\geq 0}$ the C_0-semigroup, $\omega - ORCP_n$ be ω-order-reversing partial contraction mapping which is an example of C_0-semigroup, $\omega - ORCP_n \subseteq ORCP_n$ (Order Reversing Partial Contraction Mapping). Let $M_m(\mathbb{N} \cup 0)$ be a matrix, $L(X)$ the bounded linear operator in X, P_n, the partial transformation semigroup, $\rho(A)$ a resolvent of A, where A is the infinitesimal generator of a semigroup of linear operator and $F(x)$ be a duality