

# Understanding $K^*$ Quasi-n, m-Class (Q) Operators : A powerful Tool for studying Complex systems in Math and Physics.

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## Abstract

In this paper, we extend the study of  $K^*$  Quasi -n - Class (Q) to the class of  $K^*$  Quasi -n, m-Class (Q) which exhibits a wider range of algebraic properties. By investigating this broader class of operators, we aim to provide a more comprehensive understanding of the structure of class (Q) operators. We study some algebraic properties of this class. Methodology mainly involved the use of properties of adjoint operators. Results show that this class is closed under unitary equivalence and scalar multiplication. Being a generalization of class (Q), the study of this class is pertinent in compression of signals into more compact and portable antennae. We recommend further study to be done on the spectral picture that this class enjoys.

**Keywords:**  $K$  Quasi-n, m-normal,  $K$  Quasi-n-Class (Q),  $K^*$  Quasi-n, m-Class (Q) operators.