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RESULTS ON C^*-ALGEBRA VALUED NORMED SPACES INCLUDING FIXED POINT THEOREMS WITH NEW DEVELOPMENTS AND APPLICATIONS

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Abstract. This paper presents a comprehensive exploration of C^*-algebra valued normed spaces and their profound implications in the domain of fixed point theory. Incorporating C^*-algebraic structures into normed space theory enhances the framework, connecting algebraic and topological properties for solving complex problems. The core objective of this study is to contribute new results that significantly enhance our understanding of C^*-algebra valued normed spaces. Leveraging a synthesis of techniques from functional analysis, algebra, and topology, we formulate and prove rigorous theorems that lay the foundation for a deeper comprehension of the structural characteristics of these spaces. These results offer both broader perspectives and new ideas in this developing field.

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