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SOBER OPEN SETS IN SOBER TOPOLOGICAL SPACES

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Abstract: The aim of this paper is to introduce a new class of sets called sober open sets and investigate their basic properties. In this relation we establish a new type of topology called sober topology to further investigate sober open sets and related notions.

Keywords and Phrases: Sober open set, sober topological space, sober separation.

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1. Introduction

Geometry and analysis are built upon the foundation of general topology. Topology saw great advancement in the early 20th century. The significance of open and closed sets in topological spaces has been examined by numerous academicians. Soon-Mo Jung [11] analyzed a few features of interior and closure. The significance of topological spaces is explained by the continuities, connectedness, and separation axioms in a variety of domains. Additionally, Al-Shami [2] introduced the notions of somewhere dense sets and T_1 spaces, delving into aspects of somewhere dense continuity [3], compactness, and CS-dense sets [4] in collaboration with Noiri.These investigations collectively fortify the theoretical underpinnings of