

NORMALITY VIA SOFT PRE OPEN SETS AND SOFT IDEALS

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Abstract. In this paper we introduces a weak separation axiom called soft P-normality which are strictly weaker than the axioms of soft normality using soft pre open sets. Several properties and characterizations of soft P-normal spaces have been explored. Further we extended soft P-normality to soft ideal topological spaces and present their studies.

1. Introduction

The urgent need for theories dealing with uncertainties comes from daily facing complicated problems containing data that are not always crisp. The recent mathematical tool to handle these problems is soft set which was initiated by Molodtsov [23] in 1999. The rationale of soft sets is based on the parameterization idea, which references that complex objects should be perceived from many aspects and each solo facet only provides a partial and approximate description of the whole entity. Molodtsov [23] in his pioneering work provided some applications of soft sets in different fields and elaborated its merits compared with probability theory and fuzzy sets theory which deals with vagueness or uncertainties. Afterward, Maji and his coworkers [20] investigated some operations between soft sets such as soft union and soft intersections. To overcome the shortcomings of these operations. Ali and his coworkers [5] proposed new operations such as restricted union and intersection and complement of a soft set and revealed some of their properties. Pai and Maio [24] developed information systems using soft sets. The mapping on soft classes was studied by Kharal and Ahmad [18]. In 2011, Shabir and Naz [33] as well as Çağman and his coworkers [7] employed soft sets to introduce the concept of soft topological space using two different approaches. Shabir and Naz [33] formulated soft topology on the collection of soft sets over a universal crisp set with a fixed set of parameters and on the other hand Çağman and his coworkers [7] formulated

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