(r, s)-CONVERGENT NETS

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Abstract
We introduce the notions of (r, s)-adherent point, (r, s)-accumulation point, (r, s)-cluster point, (r, s)-limit point and (r, s)-derived set in an intuitionistic fuzzy topological spaces and investigate some of their properties. Also, we define (r, s)-convergent nets and investigate some of their properties.

Keywords: Intuitionistic fuzzy set, Intuitionistic fuzzy topology, (r, s)-adherent point, (r, s)-accumulation point, (r, s)-cluster point, (r, s)-limit point, (r, s)-derived set, (r, s)-convergent net.

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1. Introduction and preliminaries
Pu and Liu [19] introduced the notions of Q-neighborhood and fuzzy net with respect to Q-neighborhoods and established the convergence theory in fuzzy topological spaces. Chen and Cheng [6] introduced the concepts of fuzzy cluster and fuzzy limit point in fuzzy topological spaces with respect to R-neighborhoods instead of Q-neighborhoods. The convergence theory in fuzzy topological spaces has been developed in many directions [6,7,11,24].

Kubiak [15] and Šostak [21] introduced the fundamental concept of a fuzzy topological structure, as an extension of both crisp topology and fuzzy topology [3], in the sense that not only the objects are fuzzified, but also the axiomatics. In [22,23], Šostak gave some rules and showed how such an extension can be realized. Chattopadhyay et al. [4] have redefined the same concept under the name gradation of openness. A general approach to the study of topological type structures on fuzzy power sets was developed in [12-16].

As a generalization of fuzzy sets, the notion of intuitionistic fuzzy set was introduced by Atanassov [2]. By using intuitionistic fuzzy sets, Çoker and his coworker [8,9] defined the topology of intuitionistic fuzzy sets. Recently, Samanta and Mondal [20], introduced