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I^n-fuzzy sets and related fuzzy topologies - (2) *

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Abstract. For a family $(I^n)^X$ of the I^n-fuzzy sets on an ordinary nonempty set X, where $|X| \geq 2$, the relations "$\leq_a$" and "$\leq_g$" are defined using the arithmetric means and the geometric means, respectively (cf. [7, definition 2.2]); and two kinds of I^n-fuzzy sets $\wedge_{\leq z}\{\lambda|\lambda \in \mathcal{G}\}$ and $\vee_{\leq z}\{\lambda|\lambda \in \mathcal{G}\}$ are investigated , where the symbol $z \in \{a, g\}$ and $\mathcal{G}$ is a given subfamily of $(I^n)^X$(cf. [7, Theorem 3.4,Notation 3.5]). On the present paper,firstly , for a given Chang topological space (X, τ_X) and $\leq_a$ (resp. $\leq_g$), we introduce new fuzzy topology, say $\tau_{X,n;a}$(resp. $\tau_{X,n;g}$) ($\subset (I^n)^X$) (cf. Definition 5.1, Theorem 5.3 in Section 5 below). Secondly,for further researchs with applications, we investigate some examples and problems; and so we have more hopes for investigations on $(I^n)^X$ with application (cf. Section 6).
(The present paper is the continuation of "the paper [7]")