Katsaras, A. K.
On fuzzy uniform spaces. (English) │ Zbl 0598.54003 │

We give some results about fuzzy uniform spaces. Our definition of a fuzzy uniform space is that of Hutton with the only difference that every member α of a fuzzy uniformity in our sense is such that $\alpha(0) = 0$. This is in accordance with what happens in the ordinary uniform spaces. The notion of a fuzzy uniform space given by Lowen differs from our concept of a fuzzy uniform space. We show that to every uniformity $\mathcal{U}$ on a set X corresponds a fuzzy uniformity $\phi(\mathcal{U})$ and that to every fuzzy uniformity Φ on X corresponds a uniformity $\psi(\Phi)$. The fuzzy topology generated by a uniformizable topology is uniformizable. In the last section we prove that for every fuzzy proximity δ, the class $\Pi(\delta)$ of all fuzzy uniformities which are compatible with δ is not empty and that $\Pi(\delta)$ contans a smallest member $\mathcal{U}(\delta)$.

MSC:

54A40	Fuzzy topology
54E15	Uniform structures and generalizations
54E05	Proximity structures and generalizations

Cited in **2** Reviews
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