

Ideal convergence of nets of functions with values in uniform spaces

Athanasios C. Megaritis

thanasismeg13@gmail.com

We consider the pointwise, uniform, quasi-uniform, and the almost uniform \mathcal{I} -convergence for a net $(f_d)_{d \in D}$ of functions from a topological space X into a uniform space Y , where \mathcal{I} is an ideal on D . The purpose of this talk is to provide ideal versions of some classical results and to extend these to the nets of functions with values in uniform spaces. In particular, we define the notion of \mathcal{I} -equicontinuous family of functions on which pointwise and uniform \mathcal{I} -convergence coincide on compact sets. Generalizing the theorem of Arzelà, we give a necessary and sufficient condition for a net of continuous functions from a compact space into a uniform space to \mathcal{I} -converge pointwise to a continuous function.

