UNIFORM SHAPE THEORY

by

Takahisa Miyata, Seattle, U.S.A.

Abstract. In this paper we develop a geometric theory of uniform shape. We define a new shape theory for uniform spaces by the inverse system approach, using the *semi-uniform homotopy*, which is weaker than the uniform homotopy. We show that various inverse systems such as resolutions, Čech systems can be used to define the uniform shapes of uniform spaces. We study the relationship with the topological shape and investigate the uniform shape of completion and uniform product. We then define the uniform shape of pairs of uniform spaces in the inverse systems approach, obtain invariants such as pro-homology, pro-homotopy, dimension, and using these invariants we formulate and prove Hurewicz, Whitehead, and Vietoris-Smale theorems.
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