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SYMMETRIZATIONS OF DISTANCE FUNCTIONS AND f-QUASIMETRIC SPACES

A. V. Greshnov

We prove theorems on the topological equivalence of distance functions on spaces with weak and reverse weak symmetries. We study the topology induced by a distance function ρ under the condition of the existence of a lower symmetrization for ρ by an f-quasimetric. For (q_1, q_2)-metric spaces (X, ρ), we also study the properties of their symmetrizations $\min\{\rho(x,y), \rho(y,x)\}$ and $\max\{\rho(x,y), \rho(y,x)\}$. The relationship between the extreme points of a (q_1, q_2)-quasimetric ρ and its symmetrizations $\min\{\rho(x,y), \rho(y,x)\}$ and $\max\{\rho(x,y), \rho(y,x)\}$.

Key words and phrases: distance function, f-quasimetric, (q_1, q_2)-quasimetric, symmetrization, extreme point.

Greshnov Aleksandr Valer'evich
Sobolev Institute of Mathematics,
Novosibirsk, 630090 Russia.
Novosibirsk State University,
Novosibirsk, 630090 Russia.
E-mail: greshnov@math.nsc.ru

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