On mappings which preserve metric-type functions

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Streszczenie

Since the beginning of the XX century, mathematicians were introducing various generalizations to the metric space structure. During this talk we will be interested in generalizations which alter the last axiom of metric space – the triangle inequality. We will go through few of the most important alternatives for this inequality to define metric-type preserving functions.

Let $A1$ and $A2$ be two properties of semimetric – for example: triangle inequality, b-metric inequality, 5^{th} Wilson axiom etc. We will say, that function $F : [0, +\infty) \to [0, +\infty)$ is $A1$-$A2$-preserving if for any semimetric space (X, d) satisfying property $A1$ the space $(X, F \circ d)$ enjoys the property $A2$.

During the talk we will take a closer look on characterizations of such functions. We will also pay some attention to relations between classes of functions preserving several important metric-type properties.