METRIKE U PRO-KATEGORIJI

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Sažetak. Za svaku kategoriju $\mathcal{A}$ i svaki par $\boldsymbol{X}$, $\boldsymbol{Y}$ inverznih sustava u $\mathcal{A}$, postoji podpuna (ultra)metrika na skupu $pro\text{-}\mathcal{A}(X,Y)$. Suženje pripadnoga hom-bifunktora na (nizovnu) podkategoriju $tow\text{-}\mathcal{A} \subseteq pro\text{-}\mathcal{A}$ jest unutrašnji Hom-bifunktor u kategoriju podpunih metričkih prostora,

$Hom : (tow\text{-}\mathcal{A})^{op} \times (tow\text{-}\mathcal{A}) \to Met_c$.

Što više, bifunktor Hom je invarijantan prema izomorfizmima u $tow\text{-}\mathcal{A}$ i $(tow\text{-}\mathcal{A})^{op}$. Nadalje, postoji netrivijalna (ultra)metrika i na klasi $Ob\mathcal{A}$ svih objekata u $\mathcal{A}$.

Ove metrike, s jedne strane, omogućuju nešto učinkovitije proučavanje i bolji uvid u neke poznate važne oblikovne invarijante i, s druge strane, dopuštaju konstruiranje novih oblikovnih invarijanata. Osim toga, one polučuju nove razredbe na klasi $Ob\mathcal{A}$, koje su bitno grublje od oblikovnoga tipa.

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Abstract. For every category $\mathcal{A}$ and every pair $\boldsymbol{X}$, $\boldsymbol{Y}$ of inverse systems in $\mathcal{A}$, there exists a complete (ultra)metric on the pro-morphism set $pro\text{-}\mathcal{A}(X,Y)$. The restriction of the corresponding hom-bifunctor to the (sequential) subcategory $tow\text{-}\mathcal{A} \subseteq pro\text{-}\mathcal{A}$ is the internal Hom-bifunctor to the category of complete metric spaces,

$Hom : (tow\text{-}\mathcal{A})^{op} \times (tow\text{-}\mathcal{A}) \to Met_c$.

Moreover, the bifunctor Hom is invariant with respect to the isomorphisms of $tow\text{-}\mathcal{A}$ and $(tow\text{-}\mathcal{A})^{op}$. Further, there exists a nontrivial (ultra)metric on the class $Ob\mathcal{A}$ of all the objects of $\mathcal{A}$.

These metrics admit somewhat more effective studying and a better view into some of the known important shape invariants. On the other hand, they yield new classifications of on the class $= Ob\mathcal{A}$, which are strictly coarser than the shape type classification.