

Abstract.

In the book [1] the authors ask if it is true that in a λ -accessible category λ -pure maps are regular monomorphisms. In [2] a counterexample is given: there is a small ω -accessible category with an ω -pure map which is an epi (but not iso), hence it is not even a strong monomorphism. Some positive results are known: in accessible categories with pushouts or in accessible categories with products the answer is affirmative. In this talk I will sketch the proof of the following: i) if \mathcal{A} is λ -accessible and it is axiomatizable in (finitary) coherent logic then λ -pure maps are strict monomorphisms ii) if there is a proper class of strongly compact cardinals and \mathcal{A} is λ -accessible then for some $\mu \triangleright \lambda$ every μ -pure map is a strict monomorphism.

[1]: Adámek-Rosický: *Locally Presentable and Accessible Categories*.

[2]: Adámek-Hu-Tholen: *On pure morphisms in accessible categories*.