

Abstract Ivan di Liberti

Title: The geometry of coherent topoi and ultrastructures

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It is known that for T a first order theory we can construct ultraproducts of models along ultrafilters. From a topos theoretic point of view, this property should correspond to a geometric property of coherent topoi. We discover such geometric property and we see how that impacts the behavior of coherent topoi. We show that coherent topoi are right Kan injective with respect to flat embeddings of topoi. We recover the ultrastructure on their category of points as a consequence of this result. We speculate on possible notions of ultracategory in various arenas of formal model theory.