

REGULAR, EXACT AND “ALMOST EXACT” COMPLETIONS

TOMAS EVERAERT

It is known that any finitely complete category can be “nicely” embedded, in a universal way, into a regular category and, similarly, into an exact one. By changing the meaning of “nicely” and of “universal” in the above, we obtain alternative notions of regular and exact completion, which will be discussed in this talk. For instance, the exact completion, in this new sense, of the category of small categories is the category of simplicial sets truncated at dimension 2.

A third, intermediate, type of completion will also be considered: the “almost exact” completion, where by an “almost exact” category we mean a regular category in which every regular epimorphism is an effective descent morphism.