

INDUCED STABLE INDEPENDENCE, WITH APPLICATIONS

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A stable independence relation on a category (a generalization of the model-theoretic notion of nonforking independence!) consists of a very special family of commutative squares, whose members have almost all the desirable properties of pushouts—this is exceedingly useful in categories in which pushouts do not exist. We describe conditions under which a stable independence notion can be transferred from a subcategory to a category as a whole, and derive the existence of stable independence notions on a host of categories of groups and modules. We thereby extend results of Mazari-Armida, who has shown that the categories under consideration are stable in the sense of Galois types. Time permitting, we will also show that, provided the underlying category is locally finitely presentable, the existence of a stable independence relation immediately yields stable independence relations in every finite dimension. This is joint work with J. Rosick and S. Vasey.