

A characterization theorem for essentially algebraic theories of varieties and of n -permutable varieties

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In this talk I will discuss how properties of locally finitely presentable categories can be presented in a syntactic way in terms of their “concentrated property” on the corresponding essentially algebraic theory. In particular I will investigate the case of exactness and regularity and mainly the interesting situations of varieties and quasi-varieties. Mal’cev category as well as n -permutable ones will be also characterized with similar techniques. The notion of an effective projective object (an object such that the corresponding hom functor preserves reflexive coequalizers) will be the basic tool for our results.

The theorems on varieties are contained in two joint papers with R. Wood, while the n -permutable case as well as the Mal’cev one have been studied in a joint paper with M. Gran.