

Another look on amalgamation in algebraic logic

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Abstract

There is a well-established correspondence between interpolation and amalgamation for algebraizable logics that satisfy certain additional assumptions (such as conjunctiveness, compactness and having a deduction term). In this talk we introduce the Robinson property of a logic and show that a conditionally algebraizable logic without any of the additional assumptions has the Robinson property if and only if the corresponding class of Lindenbaum–Tarski algebras has the amalgamation property. Moreover, we give the logical characterization of the strong amalgamation property, solving an open problem of Andr eka–N emeti–Sain. Given the mentioned extra assumptions the Robinson property implies the interpolation property. As conditionally algebraizable logics cover algebraizable logics as well as various quantifier logics such as classical first order logic, our results yield a generalization of some of the results concerning interpolation and amalgamation.