

Diego's theorem for nuclear implicative semilattices

Guram Bezhanishvili

Department of Mathematical Sciences, New Mexico State University
guram@nmsu.edu

It is a celebrated result of Diego that the variety of implicative semilattices is locally finite. I will report on the following surprising generalization of Diego's theorem: the variety of nuclear implicative semilattices remains locally finite.

This result is a joint effort of the Georgian-Italian team which also includes Nick Bezhanishvili, David Gabelaia, and Mamuka Jibladze on the Georgian side and Luca Carai and Silvio Ghilardi on the Italian side. The key ingredients of our proof include the coloring technique and construction of universal models from modal logic. For this we develop duality theory for finite nuclear implicative semilattices which generalizes Koehler duality for finite implicative semilattices.