The Morita-equivalence between MV-algebras and abelian ℓ-groups with strong unit

Olivia Caramello
Institut des Hautes Études Scientifiques

This talk is based on [2]. We show that the theory MV of MV-algebras is Morita-equivalent to the theory Lu of abelian ℓ-groups with strong unit. This generalizes the well-known equivalence between the categories of set-based models of these two theories established by D. Mundici in [3] and allows to apply the ‘bridge technique’ of [1] to transfer properties and results from one theory to the other, obtaining new insights which are not visible by using classical techniques. Among these results, we mention a bijective correspondence between the geometric theory extensions of the theory MV and those of the theory Lu, a form of completeness and compactness for the infinitary theory Lu, a logical characterization of the finitely presentable ℓ-groups with strong unit and a sheaf-theoretic version of Mundici’s equivalence.

References

