

A general perspective for the arising of the duality between finitely presented MV-algebras and rational polyhedra.

Luca Spada

(Based on a joint work with Vincenzo Marra)

Abstract: I will review the duality theorem for finitely presented MV-algebras and rational polyhedra, a folklore and yet fundamental result. I will show how this result follows from a general dual adjunction between MV-algebras and subspaces of Tychonoff cubes, endowed with the transformations that are definable in the language of MV-algebras. This dual adjunction restricts to a duality between semisimple MV-algebras and closed subspaces of Tychonoff cubes. The duality theorem for finitely presented objects is obtained by a further specialization. The treatment is aimed at showing exactly which parts of the basic theory of MV-algebras are needed in order to establish these results and what follows from general topological and universal algebraic considerations; with an eye towards future generalizations.