Duality for sheaf representations of distributive lattices

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Joint work with M. Gehrke.

In this talk, I will report on ongoing joint work with Mai Gehrke, in which we study the following general duality-theoretic question.

Question. Let A be a distributive lattice with dual Priestley space X. Let F be a sheaf representation of A over a stably compact space. What is the additional structure on X that corresponds to the structure of the sheaf F?

We answer this question for sheaf representations of A that are c-soft, i.e., any section over a compact set can be extended to a global section. We also discuss how this theory applies in particular to MV-algebras, for which also see our recent joint paper with Vincenzo Marra [1].

References

[1] M. Gehrke and S. J. van Gool and V. Marra, Sheaf representations of MV-algebras and lattice-ordered abelian groups via duality. Journal of Algebra **417**, (2014) 290–332.