PRIESTLEY DUALITY FOR MV-ALGEBRAS: A NEW PERSPECTIVE

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Despite being among the most thoroughly-studied of all residuated structures, MV-algebras have historically been very resistant to analysis from a duality-theoretic point of view. Although Priestley duality can be applied to these distributive lattice based algebras, previous attempts to understand MV-algebras duality theoretically have failed to render their defining properties in a simple fashion on dual spaces. We address this problem from the perspective of Priestley duality for double quasi-operator algebras. Here the co-residual of the MV-algebra addition is doubled and presented as two partial binary operations on the corresponding Priestley duals. In this richer environment, the defining equations of MV-algebras may be captured by transparent first-order conditions on extended Priestley duals.

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