Variety of pointed Abelian l-groups

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The variety of lattice-ordered Abelian groups (Abelian l-groups, for short) is well known and studied. It was established that, as a quasivariety, Abelian l-groups are generated by the l-group of integer numbers and thus it does not contain any proper subquasivarieties. Abelian l-groups are not only interesting from the algebraic point of view but also from the logical point of view, since they form the algebraic semantics for Abelian logic.

Although the lattice of sub(quasi)varieties of the variety of Abelian l-groups is trivial, it turns out that simply considering pointed structures yields a much more interesting structure. It has been shown that the lattice of subvarieties of MV-algebras embeds into the lattice of subvarieties of pointed Abelian l-groups via a generalized version of the Mundici functor. Recall that the lattice of subvarieties of MV-algebras was described by Komori in 1981. The aim of this talk is to present a description of the lattice of subvarieties of pointed Abelian l-groups together with an equational presentation.