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Jeffrey S. Olson*, Norwich University, Department of Mathematics, 158 Harmon Dr., Northfield, VT 05663. *Involutive residuated lattices based on modular and distributive lattices*. Preliminary report.

An involutive residuated lattice (IRL) is a lattice-ordered monoid with residual operations and a dualizing element. We show that a large class of self-dual lattices (including all finite ones) may be endowed with an IRL structure. On the other hand, we give examples of self-dual lattices which cannot admit IRLs possessing natural algebraic conditions, such as integrality. Finally, a characterization of all IRLs based on the modular lattices \mathbf{M}_n is provided. (Received November 25, 2012)