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Meet-semilattice congruences on a frame

The congruence lattice of a frame has long been an object of considerable interest, not least because it turns out to be a frame itself. Perhaps more surprisingly congruence lattices of, for instance, σ-frames, κ-frames and some partial frames also turn out to be frames. The situation for congruences of a meet-semilattice is notably different. In this talk we analyze the meet-semilattice congruence lattices of arbitrary frames and compare them with the corresponding lattices of frame congruences. In the course of this, we provide a structure theorem as well as many examples and counter-examples.

Joint work with Anneliese Schauerte.