Duality for noncommutative frames

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Noncommutative frames were introduced by Karin Cvetko-Vah as a noncommutative generalization of frames, similar to how skew lattices generalize lattices. The concept of a noncommutative frame was motivated by Lieven Le Bruyn's construction of a noncommutative topology on the points of the Arithmetic Site of Connes and Consani. In this talk, we will extend the duality between locales and frames to the noncommutative world. Our approach is inspired by an earlier paper of Bauer, Cvetko-Vah, Gehrke, van Gool and Kudryavtseva, that introduced a noncommutative Priestley duality.

The talk is based on joint work with Karin Cvetko-Vah and Lieven Le Bruyn.