Characterizing Riesz* homomorphisms via interval preserving order adjoints

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Abstract:
The natural structure-preserving maps on Riesz spaces, i.e., ordered vector spaces that are also lattices, are the Riesz homomorphisms. Kim and Andô showed that Riesz homomorphisms can be characterized via interval preserving order adjoints.

In the 90s, Buskes, van Rooij, and van Haandel introduced generalizations of Riesz homomorphisms to the more general setting of ordered vector spaces and, in particular, pre-Riesz spaces, i.e., ordered vector spaces that order densely embed into Riesz spaces. In this talk, we discuss how far the characterization of Riesz homomorphisms by interval preserving order adjoints extends to the more general setting.

This talk is based on joint work with Anke Kalauch, Janko Stennder, and Onno van Gaans.