Topological Methods in Abstract Measure Theory: A survey

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Abstract

We give a brief account on how topological methods developed by Weber for measures on Boolean algebras, and extended to orthomodular lattices, have been successfully generalized to weaker structures, such as D-lattices.

By employing these methods several results can be proved for modular measures on D-lattices (and even on pseudo-D-lattices).

For instance we have proved: Hahn decomposition, Lebesgue decomposition, Lyapunov convexity theorem, Hammer–Sobczyk decomposition, open mapping theorem, control theorems, and many others.