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Hypergroups and some Questions in Abstract Harmonic Analysis

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Hypergroups as a generalized version of locally compact groups have similarities with topological groups. Emphasizing some of these similarities, we define and study Følner type conditions for hypergroups. We also observe some results obtained from Leptin condition for Banach algebras defined on hypergroups, namely hypergroup algebras and Fourier algebras.

Also, defining weighted hypergroups, analogous to weighted groups, lets us study weighted hypergroup algebras. We investigate some properties of these algebras including Arens regularity and isomorphism with operator algebras.