ON MINIMAL DIMENSION OF NORMED BARRELLED SPACES

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A topological vector space E is *barrelled* if every closed convex balanced absorbing subset of E (a *barrel*) is a neighborhood of 0 in E. Barrelled spaces constitute a natural generalization of Banach and Fréchet spaces. Their most important feature is that strong variants of the Three Big Theorems from Banach space theory hold in them, i.e. of the Uniform Boundedness Principle, the Closed Graph Theorem, and the Open Mapping Theorem. During my talk I will discuss the minimal algebraic dimension of an infinite-dimensional normed barrelled space and its relations with classical cardinal characteristics of the continuum from Cichoń's diagram.

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