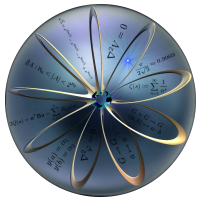

planetmath.org

Math for the people, by the people.

bornological space

Canonical name	BornologicalSpace
Date of creation	2013-03-22 15:59:09
Last modified on	2013-03-22 15:59:09
Owner	Mathprof (13753)
Last modified by	Mathprof (13753)
Numerical id	8
Author	Mathprof (13753)
Entry type	Definition
Classification	msc 46A08
Defines	bornivore

A *bornivore* is a set which absorbs all bounded sets. That is, G is a bornivore if given any bounded set B, there exists a $\delta > 0$ such that $\epsilon B \subset G$ for $0 \leq \epsilon < \delta$.

A locally convex topological vector space is said to be *bornological* if every convex bornivore is a neighborhood of 0.

A metrizable topological vector space is bornological.

References

[1] A. Wilansky, *Functional Analysis*, Blaisdell Publishing Co. 1964.

[2] H.H. Schaefer, M. P. Wolff, *Topological Vector Spaces*, 2nd ed. 1999, Springer-Verlag.