Title: Almost periodic functions valued in a convex bornological space

Author(s): Vincent Valmorin

This paper deals for the first time with the theory of almost periodicity for functions valued in a vector space endowed with a convex bornology (i.e., a convex bornological space). New results in the topological setting are then obtained. A new extension of Bochner's Criterion is given. It is shown that the space of almost periodic functions valued in a complete convex bornological space inherits the same structure for a natural bornology. Finally, integration, derivation and nonlinear operations in spaces of almost periodic functions are introduced in the perspective of the study of differential problems in this new setting of almost periodicity.

Address:
Vincent Valmorin
Département de Mathématiques
et Informatique
Université des Antilles
Laboratoire CEREGMIA
97159 Pointe-à-Pitre Cedex
France