

APPROXIMATIONS FOR UNIFORMLY CONTINUOUS FUNCTIONS ON GROUPOIDS

Mădălina Roxana Buneci

Abstract. The purpose of this paper is to prove an approximation/extension theorem for a family of partial functions on a groupoid satisfying a uniform compatibility condition. In the particular case of a trivial groupoid $G = X \times X$ and a singleton family we recover the well-known result of Katětov: every bounded uniformly continuous real-valued function f defined on a subspace of a uniform space X has a bounded uniformly continuous extension to X .

[Full text](#)

References

- [1] M. Buneci, *Various notions of amenability for not necessarily locally compact groupoids*, Surveys in Mathematics and its Applications, **9** (2014), 55–78. [MR3262174](#).
- [2] M. Buneci, *A Urysohn type lemma for groupoids*, Theory and Applications of Categories **32** (2017), Paper No. 28, 970–994. [MR3684727](#). [Zbl 06785327](#).
- [3] M. Katětov, *On real-valued functions in topological spaces*, Fund. Math. **38** (1951), 85–91; [MR0050264](#). [Zbl 0045.25704](#). *Correction to "On real-valued functions in topological spaces"*, Fund. Math. **40** (1953) 203–205. [MR0060211](#). [Zbl 0053.12304](#).
- [4] P. Muhly and D. Williams, *Renault's Equivalence Theorem for groupoid crossed products*, NYJM Monographs **3**, 2008. [MR2547343](#). [Zbl 1191.46055](#).
- [5] A. Ramsay, *The Mackey-Glimm dichotomy for foliations and other Polish groupoids*, J. Funct. Anal. **94**(1990), 358–374. [MR1081649\(93a:46124\)](#). [Zbl 0717.57016](#).

2010 Mathematics Subject Classification: 22A22; 54E15.

Keywords: groupoid, uniformity, extension theorem, approximation.

<http://www.utgjiu.ro/math/sma>

Mădălina Buneci
University Constantin Brâncuși,
Calea Eroilor No.30, 210135 Târgu-Jiu, Romania.
e-mail: ada@utgjiu.ro, mbuneci@yahoo.com
<http://www.utgjiu.ro/math/mbuneci/>

License

This work is licensed under a Creative Commons Attribution 4.0 International License.



Surveys in Mathematics and its Applications **12** (2017), 219 – 227
<http://www.utgjiu.ro/math/sma>