Ranjbar-Motlagh, Alireza

A remark on the Bourgain-Brezis-Mironescu characterization of constant functions. (English) Zbl 1459.26006

Houston J. Math. 46, No. 1, 113-115 (2020).

Summary: The purpose of this paper is to describe a simple proof for a result originally presented by *H. Brézis* [Russ. Math. Surv. 57, No. 4, 693–708 (2002; Zbl 1072.46020); translation from Usp. Mat. Nauk 57, No. 4, 59–74 (2002)], with roots in a paper by *J. Bourgain* et al. [in: Optimal control and partial differential equations. In honour of Professor Alain Bensoussan's 60th birthday. Proceedings of the conference, Paris, France, December 4, 2000. Amsterdam: IOS Press; Tokyo: Ohmsha. 439–455 (2001; Zbl 1103.46310)].

MSC:

26A30 Singular functions, Cantor functions, functions with other special properties

46E35 Sobolev spaces and other spaces of "smooth" functions, embedding theorems, trace theorems

Cited in **2** Documents

Keywords:

characterization of constant functions; convex functions

Full Text: Link

References:

[1] H. Brezis,How to recognize constant functions. Connections with Sobolev spaces, (Russian) Uspekhi Mat. Nauk 57 (2002), 59-74; translation in Russian Math. Surveys 57 (2002), 693-708. · Zbl 1072.46020

[2] J. Bourgain; H. Brezis; P. Mironescu,Another look at Sobolev spaces, Optimal control and partial differential equations, 439-455, IOS, Amsterdam, 2001. · Zbl 1103.46310

[3] H. Brezis; P. Mironescu,Sobolev maps with values into the circle, Birkh¨auser, In preparation.

[4] G. De Marco; C. Mariconda; S. Solimini,An elementary proof of a characterization of constant functions, Adv. Nonlinear Stud. 8 (2008), no. 3, 597-602. · Zbl 1161.46018

[5] R. Ignat,On an open problem about how to recognize constant functions, Houston J. Math. 31 (2005), 285-304. · Zbl 1082.46022