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Title: Characterizing locally polynomial functions on convex subsets of linear spaces

Author(s): Chisom Prince Okeke and Maciej Sablik

We introduce the notion of locally polynomial functions, satisfying a conditional Fréchet equation on convex subsets of linear space. We prove that locally polynomial functions are solutions to some rather general functional equations. Using Roman Ger's result, we infer that locally they are the restrictions of polynomial functions defined on the whole space.

Address:

Chisom Prince Okeke
Institute of Mathematics
University of Silesia
Bankowa 14
40 007 Katowice
Poland

Address:

Maciej Sablik
Institute of Mathematics
University of Silesia
Bankowa 14
40 007 Katowice
Poland