Existence of non-trivial complex unit neighborhoods

PABLO PINIELLA

ABSTRACT.

First, we briefly mention the basic definitions and results on unit neighborhoods of zero. Next, we show the existence of certain non-trivial complex unit neighborhoods of zero. We expose a generalization of the construction method used on the mentioned particular case. Since this construction may not lead to a unit neighborhood of zero, we develop some necessary conditions. Finally, we describe our heuristic use of Wolfram Mathematica to prove the existence of non-trivial complex unit neighborhoods.

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DEPARTMENT OF MATHEMATICS
UNIVERSITY OF CÁDIZ
11510 PUERTO REAL, SPAIN
E-mail address: piniella5050@gmail.com