Lipschitz contact equivalence of function germs in $\mathbb{R}^2$

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Abstract. In this paper we study Lipschitz contact equivalence of continuous function germs in the plane definable in a polynomially bounded o-minimal structure, such as semialgebraic and subanalytic functions. We partition the germ of the plane at the origin into zones where the function has explicit asymptotic behavior. Such a partition is called a pizza. We show that each function germ admits a minimal pizza, unique up to combinatorial equivalence. We then show that two definable continuous function germs are definably Lipschitz contact equivalent if and only if their corresponding minimal pizzas are equivalent.

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