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Global bi-Lipschitz classification of semi-algebraic surfaces

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Dedicated to Professor Lev Birbrair on the occasion of his 60^{th} *birthday*

Abstract. We classify semi-algebraic surfaces in $\mathbb{R}^n$ with isolated singularities up to bi-Lipschitz homeomorphisms with respect to the inner distance. In particular, we obtain complete classifications for Nash surfaces and complex algebraic curves. We also address the case of minimal surfaces with finite total curvature.

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