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Bootstrap regularity for integro-differential operators and its application to nonlocal minimal surfaces

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Abstract. We prove that $C^{1,\alpha}$ s -minimal surfaces are of class C^∞ . For this, we develop a new bootstrap regularity theory for solutions of integro-differential equations of very general type, which we believe is of independent interest.

Mathematics Subject Classification (2010): 35B65 (primary); 35R09, 49Q15, 26A33, 47G20, 49Q05 (secondary).