

REGULARITY RESULTS FOR A CLASS OF NONLOCAL DOUBLE PHASE EQUATIONS WITH VMO COEFFICIENTS

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Abstract: We study a class of nonlocal double phase problems with discontinuous coefficients. A local self-improving property and a higher Hölder continuity result for weak solutions to such problems are obtained under the assumptions that the associated coefficient functions are of VMO (vanishing mean oscillation) type and that the principal coefficient depends not only on the variables but also on the solution itself.

2020 Mathematics Subject Classification: 35B65, 35J60, 35R11.

Key words: nonlocal double phase operators, self-improving property, VMO coefficients, higher Hölder regularity results.