

IMPROVED POINCARÉ INEQUALITIES IN FRACTIONAL SOBOLEV SPACES.

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First we recall the classic Poincaré and Sobolev-Poincaré inequalities for functions with vanishing mean value in a bounded domain. Then we present the so-called improved versions of these inequalities and mention some important consequences.

Finally, we present generalizations of these inequalities for functions in fractional order spaces for the cases of John, s-John, and Hölder α domains, and we discuss the optimality of our results.

The results presented were obtained in collaboration with Irene Drelichman.