Trudinger-type inequalities for double-phase functionals with variable exponents over metric measure spaces

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Abstract. We prove Trudinger-type inequalities for variable Riesz potentials $I_{\alpha(\cdot),\tau}f$ of functions in Musielak–Orlicz–Morrey spaces $L^{\Phi,\kappa,\theta}(X)$ over bounded non-doubling metric measure spaces X, under conditions on Φ which are weaker than those considered in the previous paper by Hurri-Syrjänen and the authors in 2023. We also discuss the case when Φ is the double phase functional with variable exponents.

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