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EMBEDDING THEOREMS IN GENERALIZED GRAND SOBOLEV-MORREY SPACES WITH DOMINANT MIXED DERIVATIVES

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Abstract. In the present paper, we introduce a generalized grand Sobolev-Morrey spaces with dominant mixed derivatives, and using integral representation method, study some differential properties of functions from these spaces. A theorem has been proven that these functions satisfy also the H'older condition. This study contributes to SDG 4: Quality Education by advancing mathematical knowledge, and supports SDG 9: Industry, Innovation, and Infrastructure by providing tools potentially applicable in engineering and computational modeling. Additionally, the rigorous analysis of function properties aligns with SDG 9 and indirectly promotes SDG 11: Sustainable Cities and Communities by offering mathematical frameworks for modeling urban systems.

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