

Fractional Sobolev spaces with power weights

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Abstract. We investigate the form of the closure of the smooth, compactly supported functions $C_c^\infty(\Omega)$ in the weighted fractional Sobolev space $W^{s,p;w,v}(\Omega)$ for bounded Ω . We focus on the weights w, v which are powers of the distance to the boundary of the domain. Our results depend on the lower and upper Assouad codimension of the boundary of Ω . For such weights we also prove a comparability result between the full weighted fractional Gagliardo seminorm and the truncated one.

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