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Title: Estimates of fractional integral operator with variable kernel

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In this paper, we use interpolation and iterative methods to study the fractional integral operator $\mathcal{F}_{\Omega, \alpha}$ with variable kernel. We obtain the sharp size condition on Ω to ensure the (L^q, L^p) boundedness of $\mathcal{F}_{\Omega, \alpha}$ for $0 < \alpha < n$, $1 < p < \infty$. We also obtain some corresponding estimates of the rough bilinear fractional integral.

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