Title: Estimates of fractional integral operator with variable kernel

Author(s): Jiecheng Chen, Dashan Fan and Taotao Zheng

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.

Address:
Jiecheng Chen
Department of Mathematics
Zhejiang Normal University
321000 Jinhua
P. R. China

Address:
Dashan Fan
Department of Mathematics
University of Wisconsin–Milwaukee
Milwaukee, 53201 WI
USA

Address:
Taotao Zheng
Department of Mathematics
Zhejiang University of
Science and Technology
310023 Hangzhou
P. R. China