Mathematical
Inequalities
& Applications
Volume 24, Number 2 (2021), 515–519 doi:10.7153/mia-2021-24-35

A NOTE ON WEIGHTED ESTIMATES FOR BILINEAR FRACTIONAL INTEGRAL OPERATORS

YASUO KOMORI-FURUYA

Abstract. De Napoli, Drelichman and Durán (2011) proved weighted estimates for the fractional integral operators. Komori-Furuya and Sato (2020) proved weighted estimates for bilinear fractional integral operators. We show that their results are optimal by giving counterexamples.

Mathematics subject classification (2010): 42B20, 42B25.
Keywords and phrases: Bilinear fractional integral, weighted estimates, Stein-Weiss inequality.

REFERENCES

[1] J. DUOANDIKOETXEA, *Fractional integrals on radial functions with applications to weighted inequalities*, Annali di Matematica **192**, 553–568 (2013).
[2] P. DE NÁPOLI, I. DRELICHMAN AND R. G. DURÁN, *On weighted inequalities for fractional integrals of radial functions*, Ill. J. Math., **55** (2), 575–587 (2011).
[3] L. GRAFAKOS, *Classical Fourier Analysis*, 2nd ed. Graduate Texts in Math. No. 249, Springer (2008).
[4] Y. KOMORI-FURUYA AND E. SATO, *Weighted estimates of multilinear fractional integral operators for radial functions*, Math. Ineq. Appl. **23** (1), 245–256 (2020).
[5] B. S. RUBIN, *One-dimensional representation, inversion and certain properties of Riesz potentials of radial functions* (Russian), Mat. Zametki **34 (4)**, 521–533 (1983). English translation: Math. Notes **34**, 751–757 (1983).
[6] E. M. STEIN AND G. WEISS, *Fractional integrals on n-dimensional Euclidean space*, J. Math. Mech. **7**, 503–514 (1958).

© ELEMENT, Zagreb
Paper MIA-24-35
Mathematical Inequalities & Applications
www.ele-math.com
mia@ele-math.com