GULIYEV V.S., MUSTAFAYEV R.Ch.

ON GENERALIZED FRACTIONAL INTEGRALS

Abstract

The properties of generalized fractional integrals are studied.

It is known that the fractional integral

$$I_\alpha f(x) = \int_{R^n} \frac{f(y)}{|x-y|^{n-\alpha}} dy, \qquad 0 < \alpha < n,$$

is bounded from $L_p(R^n)$ to $L_q(R^n)$, when $1 < p < n/\alpha$ and $1/q = 1/p - \alpha/n$ as the Hardy-Littlewood-Sobolev theorem. We consider generalized fractional integrals and prove the Hardy-Littlewood-Sobolev theorem for them. Related questions were studied in works of Y.Mizuta, E.Nakai, A.Gadjiev and etc.

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KƏSR İNTEQRALLARIN ÜMUMİLƏŞMƏSİ

İşdə ümumiləşmiş kəsr inteqral operatorun xassələri öyrənilmişdir.