If $\overline{q} = \infty$, then

$$\|f\|_{\Lambda_\infty(\overline{\varphi})} = sup_{t_2>0} sup_{t_1>0} f^{*_1 *_2}(t_1,t_2)\varphi_1(t_1)\varphi_2(t_2).$$

Let $\delta > 0$ and $\varphi(t)$ be nonnegative function on$[0,\infty)$. Define a function class C_δ:

$$C_\delta = \{\varphi(t): \quad \varphi(t)t^{-\delta} \text{ is an increasing function and } \varphi(t)t^{-1+\delta} \text{ is a decreasing function}\}.$$

The class C is defined as follows:

$$C = \bigcup_{\delta>0} C_\delta.$$

Theorem 1. Let $0 < \bar{p}_0 = (p_1^0, p_2^0) < \bar{p}_1 = (p_1^1, p_2^1) < \infty$, $1 \le \bar{q} = (q_1, q_2) \le \infty, \gamma_i = \frac{1}{p_i^0} - \frac{1}{p_i^1}$, $i = 1,2, \varphi_1, \varphi_2 \in C$. Then the following inequality is true

$$(L_{\bar{p}_0}, L_{\bar{p}_1})_{\overline{\varphi},\bar{q}} = \Lambda^{\bar{q}}(\bar{\psi}),$$

where $\bar{\psi}(t_1,t_2) = \left(\frac{t_1^{\frac{1}{p_1^0}}}{\varphi_1(t_1^{\gamma_1})}, \frac{t_2^{\frac{1}{p_2^0}}}{\varphi_2(t_2^{\gamma_2})}\right)$.

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ON THE CONVOLUTION OPERATOR IN LEBESGUE AND MORREY SPACES

Nursultanov E.D.
Kazakhstan branch of Moscow State University named after M.V. Lomonosov, Nur-Sultan, Kazakhstan
E-mail:er-nurs@yandex.ru

Annotation. This paper is devoted to the study of upper bounds for the norm of the convolution operator in Morrey spaces. Upper and lower estimates for the norm of the convolution operator in the Lebesgue space are given. The upper bound refines the classical O'Neill inequality. Young-O'Neil type inequalities in Morrey spaces are proved. New results on the boundedness of Riesz's potential in Morrey spaces are established.

О ВЛОЖЕНИИИ ПРОСТРАНСТВА ОБОБЩЕННЫХ ДРОБНО-МАКСИМАЛЬНЫХ ФУНКЦИИ В ПЕРЕСТАНОВОЧНО-ИНВАРИАНТНЫЕ ПРОСТРАНСТВА

Бокаев Н. А., Әбек А.Н.
Евразийский национальный университет им. Л.Н. Гумилева, Нур-Султан, Казахстан
E-mail:bokayev2011@yandex.ru,azhar.abekova@gmail.com

В данной работе вопрос о вложении пространства обобщенных дробно-максимальных функции в перестановочно-инвариантные пространства сводится к вложению соответствующего конуса в другое перестановочно-инвариантное пространство.