The non-commutative Hardy-Littlewood maximal function on symmetric spaces of $\tau-$measurable operators

Y. Nessipbayev[1], K. Tulenov[2]

[1] *Al-Farabi Kazakh National University, Almaty, Kazakhstan, and International Information Technology University, Almaty,Kazakhstan*
yerlan.nessipbayev@gmail.com

[2] *Al-Farabi Kazakh National University, Almaty, Kazakhstan, and Institute of Mathematics and Mathematical Modeling, Almaty,Kazakhstan*
tulenov@math.kz

Abstract: In this paper, we investigate the Hardy-Littlewood maximal function on non-commutative symmetric spaces. We complete the results of T. Bekjan and J. Shao. Moreover, we refine the main results of the papers [1] and [2].

Keywords: symmetric spaces of functions and operators, Hardy-Littlewood maximal function, von Neumann algebra, (non-commutative) Lorentz and Marcinkiewicz spaces.

2010 Mathematics Subject Classification: 46E30, 47B10, 46L51, 46L52, 44A15; Secondary 47L20, 47C15.

References

[1] T.N. Bekjan, Hardy-Littlewood maximal function of τ-measurable operators, J. Math. Anal. Appl., vol. 322, 87–96, 2006.

[2] J. Shao, Hardy-Littlewood maximal function on noncommutative Lorentz spaces, Journal of Inequalities and Applications, 2013, 2013:384.