UDC 517.98

MATEMATICHESKIE TRUDY
2001, V. 4, N 2, 27–41

MEASURABLE BUNDLES OF NONCOMMUTATIVE L_p-SPACES ASSOCIATED WITH A CENTER-VALUED TRACE

I. G. Ganiev and V. I. Chilin

Suppose that M is a finite von Neumann algebra, Φ is a faithful normal trace on M with values in the center of M, $L_p(M,\Phi)$ is the Banach–Kantorovich space of all measurable operators associated with M and p-integrable with respect to Φ, $p \geq 1$. We give a representation of $L_p(M,\Phi)$ as a measurable bundle of noncomutative L_p-spaces associated with number traces. We also prove a "pasting" theorem for noncommutative L_p-spaces.

Key words and phrases: von Neumann algebra, center-valued trace, measurable bundle, Banach–Kantorovich space.

Received
April 30, 1999

Ganiev Inomzhon Gulamdzhanovich
Tashkent Railway Institute,
700167 Tashkent, Uzbekistan.
E-mail: inam@uzsci.net, isam@mail.tps.uz

Chilin Vladimir Ivanovich
Tashkent State University,
Vuzgorodok, 700095 Tashkent, Uzbekistan.
E-mail: chilin@ucd.uz

Translated into English:
Siberian Advances in Mathematics, V. 12, N 4, 19–33 (2002).