

1077-46-2260

**Genady Ya. Grabarnik\*** ([grabarng@stjohns.edu](mailto:grabarng@stjohns.edu)), Dept. of Math & CS, St Johns College, St Johns University, Queens, NY , and **Alexander A. Katz** ([katza@stjohns.edu](mailto:katza@stjohns.edu)), St. John's University, St. John's College of, Staten Island, NY. *Convergence of the spherical averages for Markov semigroups on operator algebras.*

The goal of the note is to extend results of the Nevo, Bufetov et al. [1] and results of the authors [3] about convergence (in norm and in Egorov sense) of the spherical averages over action of general Markov (semi-) group of operators affiliated to operator algebra and integrated with  $p$ -th power ( $p$  greater than 1). Our interest in such general groups actions is motivated by Gromov's result [2] on word hyperbolic group exhibiting Markov property with respect to any symmetric set of generators.

## References

- [1] Bufetov, A. and Khristoforov, M. and Klimenko, A., Cesaro convergence of spherical averages for measure-preserving actions of Markov semigroups and groups. *ArXiv e-prints*, **1101.5459B** (2011).
- [2] M. Gromov, Hyperbolic groups, in *Essays in Group Theory*, *MSRI Publ.* **8** (1987), 75–263, Springer-Verlag, New York.
- [3] G. Ya. Grabarnik, A. A. Katz, L. A. Shwartz On non-commutative ergodic type theorems for free finitely generated semigroups *Vladikavkaz Math Journal* ( 2007) **9** 38–47.

(Received September 21, 2011)