Operators
and
Matrices
Volume 12, Number 1 (2018), 39–53 doi:10.7153/oam-2018-12-04

THE SHILOV BOUNDARY FOR A q–ANALOG OF THE HOLOMORPHIC FUNCTIONS ON THE UNIT BALL OF 2×2 SYMMETRIC MATRICES

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Abstract. We describe the Shilov boundary for a q-analog of the algebra of holomorphic functions on the unit ball in the space of symmetric 2×2 matrices.

Mathematics subject classification (2010): Primary 17B37, secondary 20G42, 46L07.
Keywords and phrases: Hopf algebra, $*$-algebra, representation, complete contraction.

REFERENCES

[1] W. ARVESON, *Subalgebras of C^*-algebras*, Acta Math. **123** (1969), 141–224.
[2] W. ARVESON, *Subalgebras of C^*-algebras II*, Acta Math. **128** (1972), 271–308.
[3] O. BERSHTEIN, *On $*$-representations of polynomial algebras in quantum matrix spaces of rank 2*, Algebr. Represent. Theor. **17** (2014), no. 4, 1083–1093.
[4] O. BERSHTEIN, *Regular functions on the Shilov boundary*, J. Algebra Appl. **4** (2005), no. 6, 613–629.
[5] K. DAVIDSON, *C^*-algebras by Examples*, Fields Institute Monographs, vol. **6**, American Mathematical Society, Providence, RI, 1996.
[6] M. HAMANA, *Injective envelopes of operator systems*, Publ. RIMS Kyoto Univ. **15** (1979), no. 3, 773–785.
[7] P. E. T. JØRGENSEN, L. M. SCHMITT, R. F. WERNER, *Positive representations of general commutation relations allowing Wick ordering*, J. Funct. Anal. **134** (1995), no. 1, 33–99.
[8] A. KLIMYK, K. SCHMÜDGEN, *Quantum Groups and Their Representations*, Springer-Verlag, 1997.
[9] V. PAULSEN, *Completely Bounded Maps and Operator Algebras*, Cambridge studies in advanced mathematics, vol. 78, Cambridge University Press, 2003.
[10] D. PROSKURIN, L. TUROWSKA, *Shilov boundary for "holomorphic functions" on a quantum matrix ball*, Algebr. Represent. Theor. **18** (2015), no. 4, 917–929.
[11] W. PUSZ, S. L. WORONOWICZ, *Twisted second quantization*, Rep. Math. Phys. **27** (1989), no. 2, 231–257.
[12] L. VAKSMAN, *Quantum Bounded Symmetric Domains*, Translations of Mathematical Monographs, vol. 238, American Mathematical Society, 2010.
[13] L. VAKSMAN, *Maximum principle for "holomorphic functions" in the quantum ball*, Mat. Fiz. Anal. Geom. **10** (2003), no. 1, 12–28.