POWERS OF POSINORMAL OPERATORS

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Abstract. The square of a posinormal operator is not necessarily posinormal, but natural powers of a posinormal operator with finite descent are posinormal. Also, natural powers (i) of quasi-posinormal operators are quasiposinormal, (ii) of operators that are both posinormal and coposinormal are posinormal and coposinormal, and (iii) of semi-Fredholm posinormal operators are posinormal.

REFERENCES

[1] R. Bouldin, *The product of operators with closed range*, Tôhoku Math. J. **25** (1973), 359–363.
[2] R. G. Douglas, *On majorization, factorization, and range inclusion of operators on Hilbert space*, Proc. Amer. Math. Soc. **17** (1966), 413–415.
[3] M. Ito, *Characterization of posinormal operators*, Nihonkai Math. J. **11** (2000), 97–101.
[4] I. H. Jeon, S. H. Kim, E. Ko and J. E. Park, *On positive-normal operators*, Bull. Korean Math. Soc. **39** (2002), 33–41.
[5] C. S. Kubrusly, *Tensor product of proper contraction, stable and posinormal operators*, Publ. Math. Debrecen **71** (2007), 425–437.
[6] C. S. Kubrusly, *The Elements of Operator Theory*, Birkhäuser/Springer, New York, 2011.
[7] C. S. Kubrusly, *Spectral Theory of Operators on Hilbert Spaces*, Birkhäuser/Springer, New York, 2012.
[8] C. S. Kubrusly and B. P. Duggal, *On posinormal operators*, Adv. Math. Sci. Appl. **17** (2007), 131–148.
[9] M. Y. Lee and S. H. Lee, *On powers of p-posinormal operators*, Sci. Math. Jpn. **64** (2006), 97–101.
[10] H. C. Rhaly, Jr., *Posinormal operators*, J. Math. Soc. Japan **46** (1994), 587–605.
[11] H. C. Rhaly, Jr., *A superclass of the posinormal operators*, New York J. Math, **30** (2014), 497–506.

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