## **INEQUALITIES FOR THE** C\*-VALUED NORM ON A HILBERT C\*-MODULE

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*Abstract.* The  $C^*$ -valued norm is defined on a Hilbert  $C^*$ -module by its standard inner product. In this paper we give generalizations of a number of classical inequalities known for either complex numbers or Hilbert space operators. In particular, we study Bohr's inequality for the  $C^*$ -valued norm on a Hilbert  $C^*$ -module.

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## REFERENCES

- LJ. ARAMBAŠIĆAND R. RAJIĆ, On the C\*-valued triangle equality and inequality in Hilbert C\*modules, Acta Mathematica Hungarica, 119, 4 (2008), 373–380.
- [2] R. BHATIA AND F. KITTANEH, Notes on matrix arithmetic-geometric mean inequalities, Linear Algebra and its Applications, 308 (2000), 203–211.
- [3] W. S. CHEUNG, J. PEČARIĆ, *Bohr's inequalities for Hilbert space operators*, Journal of Mathematical Analysis and Applications, **323** (2006), 403–412.
- [4] R. HARTE, The triangle inequality in C\* -algebras, Filomat, 20, 2 (2006), 51–53.
- [5] O. HIRZALLAH, Non-commutative operator Bohr inequality, Journal of Mathematical Analysis and Applications, 282 (2003), 578–583.
- [6] B. KOLAREC, Introducing preorder to Hilbert C\* -modules, submitted.
- [7] J. E. PEČARIĆ AND TH. M. RASSIAS, Variations and Generalizations of Bohr's inequality, Journal of Mathematical Analysis and Applications, 174 (1993), 138–146.
- [8] N. E. WEGGE-OLSEN, K-theory and C\*-algebras: a friendly approach, Oxford University Press, 1993.

