

REVERSE CAUCHY–SCHWARZ INEQUALITIES FOR POSITIVE C^* -VALUED SESQUILINEAR FORMS

MOHAMMAD SAL MOSLEHIAN¹ AND LARS-ERIK PERSSON²

¹DEPARTMENT OF MATHEMATICS, FERDOWSI UNIVERSITY OF MASHHAD, IRAN; AND CENTRE OF EXCELLENCE IN ANALYSIS ON ALGEBRAIC STRUCTURES, FERDOWSI UNIVERSITY OF MASHHAD, IRAN

²DEPARTMENT OF MATHEMATICS, LULEÅ UNIVERSITY OF TECHNOLOGY, SWEDEN

ABSTRACT. We obtain some inequalities derived from the Cauchy–Schwarz inequality in inner product C^* -modules. We also present two reverse Cauchy–Schwarz inequalities of additive and multiplicative types in a linear space equipped with a positive sesquilinear form with values in a C^* -algebra.

REFERENCES

- [1] S. S. DRAGOMIR, *Advances in Inequalities of the Schwarz, Triangle and Heisenberg Type in Inner Product Spaces*, Nova Science Publishers, Inc., New York, 2007.
- [2] S. S. DRAGOMIR AND J. SÁNDOR, *Some inequalities in pre-Hilbertian spaces*, Studia Univ., Babes-Bolyai, Mathematica, **32**, (1), (1987), 71–78.
- [3] D. ILIŠEVIĆ AND S. VAROŠANEC, *On the Cauchy–Schwarz inequality and its reverse in semi-inner product C^* -modules*, Banach J. Math. Anal., **1**, (2007), 78–84.
- [4] M. JOIȚA, *On the Cauchy–Schwarz inequality in C^* -algebras*, Math. Rep. (Bucur.), **53**, 3, (2001), 243–246 (2002).
- [5] C. P. NICULESCU, *Converses of the Cauchy–Schwarz inequality in the C^* -framework*, An. Univ. Craiova Ser. Mat. Inform. **26**, (1999), 22–28.