

THE DUNKL–WILLIAMS INEQUALITY WITH n ELEMENTS IN NORMED LINEAR SPACES

JOSIP PEČARIĆ AND RAJNA RAJIĆ

Abstract. In this paper we establish a generalization of the Dunkl-Williams inequality for finitely many elements in a normed linear space. As a consequence, we get some recently obtained results on the generalized triangle inequality and its reverse inequality. The case of equality for elements of a strictly convex normed linear space is also considered.

Mathematics subject classification (2000): 26D15.

Key words and phrases: triangle inequality, Dunkl-Williams inequality.

REFERENCES

- [1] C. F. DUNKL, K. S. WILLIAMS, *A simple norm inequality*, Amer. Math. Monthly, **71**, (1964), 53–54.
- [2] M. KATO, K. S. SAITO AND T. TAMURA, *Sharp triangle inequality and its reverse in Banach spaces*, Math. Ineq. Appl., **10**, (2) (2007), 453–462.
- [3] L. MALIGRANDA, *Simple norm inequalities*, Amer. Math. Monthly, **113**, (2006), 256–260.
- [4] J. L. MASSERA, J. J. SCHÄFFER, *Linear differential equations and functional analysis I*, Ann. of Math., **67**, (1958), 517–573.
- [5] P. R. MERCER, *The Dunkl-Williams inequality in an inner-product space*, Math. Inequal. Appl., **10**, (2) (2007), 447–451.