SOME NEW BOUNDS FOR THE
GENERALIZED TRIANGLE INEQUALITY

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Abstract. In this paper we present some new inequalities in normed linear spaces which much improve the triangle inequality. Our results refine and generalize the corresponding ones obtained by Mitani et al. [On sharp triangle inequalities in Banach spaces, J. Math. Anal. Appl. 336 (2007) 1178-1186].

REFERENCES

[1] J. A. CLARKSON, *Uniformly convex spaces*, Trans. Amer. Math. Soc. **40** (1936), 396–414.
[2] C. F. DUNKL AND K. S. WILLIAMS, *A simple norm inequality*, Amer. Math. Monthly **71** (1964), 53–54.
[3] H. HUDZIK AND T. R. LANDES, *Characteristic of convexity of Köthe function spaces*, Math. Ann. **294** (1992), 117–124.
[4] M. KATO, K. S. SAITO AND T. TAMURA, *Sharp triangle inequality and its reverse in Banach spaces*, Math. Ineqal. Appl. **10**, 2 (2007), 451–460.
[5] W. A. KIRK AND M. F. SMILEY, *Mathematical Notes: Another characterization of inner product spaces*, Amer. Math. Monthly **71**, 8 (1964), 890–891.
[6] L. MALIGRANDA, *Simple norm inequalities*, Amer. Math. Monthly **113** (2006), 256–260.
[7] L. MALIGRANDA, *Some remarks on the triangle inequality for norms*, Banach J. Math. Anal. **2**, 2 (2008), 31–41.
[8] J. L. MASSERA AND J. J. SCHAFFER, *Linear differential equations and functional analysis I*, Ann. of Math. **67** (1958), 517–573.
[9] K. MITANI, K. S. SAITO, M. KATO AND T. TAMURA, *On sharp triangle inequalities in Banach spaces*, J. Math. Anal. Appl. **336** (2007), 1178–1186.

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