

SOME NEW OPIAL-TYPE INEQUALITIES

ILKO BRNETIĆ AND JOSIP PEČARIĆ

Abstract. In [3] Agarwal, Pečarić and Brnetić improved many known Opial-type inequalities in n independent variables. Here we shall use the same basic idea as used in [3] to improve some Opial-type inequalities in one variable proved by Agarwal and Pang [1]. We shall also make some remarks on the results proved in [3] and give some simple generalizations.

Mathematics subject classification (1991): 26D10, 26D15.

Key words and phrases: Opial-type inequality, convex function, Hölder inequality, Jensen inequality.

REFERENCES

- [1] R. P. AGARWAL AND P. Y. H. PANG, *Remarks on the generalization of Opial's inequality*, Journal of Math. Analysis and Appl. **190** (1995), 559–577.
- [2] ———, *Opial Inequalities with Applications in Differential and Difference Equations*, Kluwer Academic Publishers, Dordrecht, Boston, London,, 1995.
- [3] R. P. AGARWAL, J. PEČARIĆ AND I. BRNETIĆ, *Improved integral inequalities in n independent variables*, Computers Math. Applic. **33** (8) (1997), 27–38.
- [4] R. P. AGARWAL AND Q. SHENG, *Sharp integral inequalities in n independent variable*, Nonlinear Analysis **26** (2) (1996), 179–210.
- [5] W. S. CHEUNG, *On integral inequalities of the Sobolev type*, Acquatones Mathematicae **49** (1995), 153–159.