

## ON GOSPER'S FORMULA FOR THE GAMMA FUNCTION

CRISTINEL MORTICI

*Abstract.* The aim of this paper is to establish a double inequality related to Gosper formula for approximation of big factorials

*Mathematics subject classification (2010):* 33B15, 41A10, 42A16.

*Keywords and phrases:* Gamma function, Stirling formula, Gosper formula, approximations.

### REFERENCES

- [1] B. C. BERNDT, Y.-S. CHOI, S.-Y. KANG, *The Problems Submitted by Ramanujan*, J. Indian Math. Soc., Contemporary Math. **236** (1999), 15–56.
- [2] R. W. GOSPER, *Decision procedure for indefinite hypergeometric summation*, Proc. Natl. Acad. Sci., USA **75** (1978), 40–42.
- [3] S. RAMANUJAN, *The lost notebook and other unpublished papers*, Intr. by G. E. Andrews, Narosa Publ. H.-Springer, New Delhi-Berlin, 1988.
- [4] J. STIRLING, *Methodus differentialis, sive tractatus de summation et interpolation serierum infinitarum*, London, 1730. English translation by J. Holliday, *The Differential Method: A Treatise of the Summation and Interpolation of Infinite Series*.