

# The radius of convexity and of uniform convexity a product of Bessel functions

Engel Olga and Szász Róbert

Department of Mathematics-Informatics, Sapientia Hungarian University of Transylvania

rszasz@ms.sapientia.ro

In [?] the authors determined the radius of starlikeness and convexity of the product of Bessel functions. We give a different proof for the radius of convexity and we determine the radius of uniform convexity of the mentioned product of Bessel functions. The basic tool of the research is the development of the cross-product of Bessel functions in function series.

## References

- [1] Á. Baricz, D.K. Dimitrov, H. Orhan, N. Yagmur Radii of starlikeness of some special functions, - arXiv preprint, arXiv:1406.3732v1, 2014 - arxiv.org
- [2] Á. Baricz, Nihat Yagmur, Radii of starlikeness and convexity of a cross product of Bessel functions, - arXiv preprint arXiv:1601.01998, 2016 - arxiv.org
- [3] Á. Baricz, H. Orhan, R. Szász, The radius of *alpha*-convexity of normalized Bessel functions of the first kind, - arXiv preprint arXiv:1412.2000, 2014 - arxiv.org
- [4] Á. Baricz, N. Yağmur, Radii of convexity of some Lommel and Struve functions - arXiv preprint arXiv:1410.5217, 2014 - arxiv.org
- [5] F. Roning, *Uniformly convex functions and a corresponding class of starlike functions*, Proc. Amer. Math. Soc., Vol.118, No.1(1993), pp.189-196
- [6] R. Szász, *The radius of starlikeness and the radius of convexity of the  $\Gamma_q$  function* ( $q \in (0, 1)$ ) (Submitted paper)
- [7] R. Szász, *Geometric properties of the functions  $\Gamma$  and  $1/\Gamma$* , Mathematische Nachrichten, Volume 288, Issue 1, pp. 115-120, January 2015