■ Tohru Ozawa Department of Applied Physics, Waseda University, email: txozawa@waseda.jp, Shuji Machihara Faculty of Education, School of Mathematics, Saitama University email: matihara@math.edu.saitama-u.ac.jp and Hidemitsu Wadade Department of Mathematics, Faculty of Education, Gifu University, email: wadade@gifu-u.ac.jp

Hardy type inequalities on balls

Abstract

This talk is based on my recent joint-work with Shuji Machihara and Hidemitsu Wadade. We revisit the Hardy inequalities on balls with radius R at the origin in \mathbb{R}^n with $n \ge 2$. We describe how the behavior of functions on the boundary affects the Hardy type inequalities. A special attention is paid on the case n = 2 with logarithmic correction.

BIBLIOGRAPHY

- O. A. LADYZHENSKAYA, The mathematical theory of viscous incompressible flow, Second English edition, revised and enlarged. Translated from the Russian by Richard A. Silverman and John Chu. Mathematics and its Applications, Vol. 2, Gordon and Breach, Science Publishers, New York-London-Paris, (1969).
- [2] J. LERAY, Etude de diverses équations integrales non linéaires et de quelques problèmes que pose l'hydrodynamique, J. Math. Pures Appl. 12 (1933), 1–82.
- [3] S. MACHIHARA, T. OZAWA AND H. WADADE, Hardy type inequalities on balls, Tohoku Math. J. (in press)