

Lobachevskii Journal of Mathematics 2016 vol.37 N3, pages 274-283

Hardy type inequalities with weights dependent on the Bessel functions

Nasibullin R.

Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

© 2016, Pleiades Publishing, Ltd. We obtain a new sharp Hardy type inequality with an additional term. Using the Bessel functions we prove one dimensional inequality and their multidimensional analogs in domains with a finite inradius. The weight functions depend on the Bessel functions and Lamb's constants.

<http://dx.doi.org/10.1134/S1995080216030185>

Keywords

Bessel functions, convex domains, distance function, Hardy inequality, inradius, Lamb constant