

# Inherent relationships between Bessel functions of the first kind and spherical functions with their geophysical applications

M. Hvoždara, J. Vozár

Geophysical Institute of the Slovak Academy of Sciences<sup>1</sup>

**Abstract:** Some new formulae connecting the Bessel functions of the first kind with spherical harmonics are presented. The utilization of these formulae is applied to the calculation of Fourier-Bessel integrals even for the double products of the Bessel functions.

**Key words:** spherical harmonics (Bessel functions of the first kind, Fourier-Bessel integrals)

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<sup>1</sup>Dúbravská cesta 9, 842 28 Bratislava, Slovak Republic,  
e-mail: geofhvoz@savba.sk, geofjavo@savba.sk