1037-44-119 **Boris Rubin*** (borisr@math.lsu.edu), Department of Mathematics, Louisiana State University, Baton Rouge, LA 70803. *Spherical Means in Odd Dimensions and the Euler-Poisson-Darboux Equation.*

A simple proof of the Finch-Patch-Rakesh inversion formula for the spherical mean Radon transform in odd dimensions is suggested. This transform arises in thermoacoustic tomography. Applications are given to the Cauchy problem for the Euler-Poisson-Darboux equation with initial data on the cylindrical surface. The argument relies on the idea of analytic continuation and known properties of Erdélyi-Kober fractional integrals. (Received January 28, 2008)