1125-44-108   **Boris Rubin*** (`borisr@math.lsu.edu`), Department of Mathematics, 303 Lockett Hall, Louisiana State University, Baton Rouge, LA 70803. *New Inversion Formulas for the Horospherical Transform.*

We obtain new inversion formulas of two kinds for the horospherical transform in the real hyperbolic space. This transform is a hyperbolic analogue of the classical hyperplane Radon transform. The formulas of the first kind employ mean value operators and are applicable to functions in Lebesgue spaces. The formulas of the second kind work on smooth functions and rely on the properties of hyperbolic potentials. The latter can be explicitly inverted by polynomials of the Beltrami-Laplace operator. (Received July 29, 2016)