

1011-45-233

Chao Jin* (chao.jin@colorado.edu), Department of Applied Mathematics, Campus Box 526, University of Colorado at Boulder, Boulder, CO 80309, and **Congming Li** (cli@colorado.edu).

The symmetry of the solutions to the intergral equations related with weighted Hardy-Littlewood-Sobolev inequality.

we study some system of integral equations related to Hardy-Littlewood-Sobolev(HLS) inequalities. We prove that, with some estimates and integrability conditions, the positive regular solution to the system is radially symmetric and monotone about some point. In particular, we established the radial symmetric property of the solution to the Euler-Lagrange equations associated with the classical and weighted Hardy-Littlewood-Sobolev inequalities. (Received August 28, 2005)