

The integral estimates and the asymptotics of solutions to the weighted HLS systems

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Abstract

The main object is the study of positive solutions to the integral system derived from the well known Hardy-Littlewood-Sobolev inequality in both weighted and non-weighted form. We begin with a short/incomplete review of the related results and problems. Then we focus on the integral type estimates. As an application, we use the special integral type estimates to derive the asymptotic expansion of the solutions at infinity as well as at the possible interior singular point.