

1107-35-476

Ze Cheng*, University of Colorado Boulder, Boulder, CO 80309, **Genggeng Huang** (genggenghuang1986@gmail.com), Shanghai Jiao Tong University, Shanghai, 80309, Peoples Rep of China, and **Congming Li** (congmingli@gmail.com), Shanghai Jiao Tong University, Shanghai, Peoples Rep of China. *Hardy-Littlewood-Sobolev type systems and the Lane-Emden conjecture.*

We give a brief discussion about the Hardy-Littlewood-Sobolev type systems:

$$\begin{cases} (-\Delta)^{\gamma/2}u = v^q, & u > 0, \text{ in } R^n, \\ (-\Delta)^{\gamma/2}v = u^p, & v > 0, \text{ in } R^n. \end{cases} \quad (1)$$

These are also sometimes called Lane-Emden type systems. Beyond the existence, non-existence, and classification of positive solutions, we also study the integrability, asymptotic at infinite, and symmetries of positive solutions. (Received January 20, 2015)