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Hénon-Lane-Emden conjecture and related Schrödinger systems

We have proved Hénon-Lane-Emden conjecture is true for space dimension $N = 3$ by scaling invariant of the solutions and Sobolev embedding on S^{N-1} . Then we obtained new Liouville-type theorems and showed Hénon-Lane-Emden conjecture for polyharmonic system holds in a new region, and also proved the generalized Hénon-Lane-Emden conjecture in \mathbb{R}^2 and \mathbb{R}^3 . Moreover, we prove some new results for existence of solutions to related Schrödinger equations and systems.