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数学与统计学院学术报告

Revisiting Fazly-Wei-Xu's estimate for fourth-order Hénon equations in the whole space

报告人: Quoc Anh Ngo (VNU University of Science, Hanoi)

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邀请人: 边东芬

摘 要: In 1985, via the maximum principle, L. Modica established a gradient estimate for bounded entire solutions to the nonlinear second-order equation $\Delta u = F'(u)$ in the Euclidean space. It turns out that a Modica type estimate for fourth-order Hénon equations is also available despite the lack of maximum principles. Ten years ago, this analogous estimate was strengthened in a work of M. Fazly, J.C. Wei, and X. Xu by incorporating a gradient term, leading to several interesting applications in conformal geometry. This talk focuses on the improved inequality introduced by Fazly, Wei, and Xu. Specifically, I will demonstrate that the enhanced inequality remains valid for a broader range of parameters, and it holds for any solution, not necessarily bounded. The inequality is in fact sharp.

个人简介: Quoc Anh Ngo, 越南河内国家大学自然科学学院副教授, 现任数学、力学与信息学学院院长。博士毕业于新加坡国立大学, 曾在法国图尔大学从事博士后研究, 并在日本东京大学任项目研究员。研究方向包括变分法、非线性偏微分方程、黎曼几何与几何分析及数学物理。成果发表于《Adv. Math.》《Comm. Math. Phys.》《Math. Ann.》等期刊。曾获2017年越南数学研究所科学奖和2021年河内国家大学科技奖。