



复旦大学数学科学学院 数学综合报告会

报告题目： Global boundedness induced by asymptotically non-degenerate motility in a fully parabolic Keller-Segel model with local sensing

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报告时间： 2024年11月25日星期一，15:00—16:00

报告地点： 光华楼东主楼1801室

报告摘要： In this talk we report our recent progress on a fully parabolic chemotaxis model of Keller-Segel type with local sensing. The system features a signal-dependent asymptotically non-degenerate motility function, which accounts for a repulsion-dominated chemotaxis. Global boundedness of classical solution is proved for an initial Neumann boundary value problem of the system in any space dimension. In particular, stabilization towards the homogeneous steady state is shown provided that the motility is monotone non-decreasing. The key steps of the proof consist of the introduction of several auxiliary functions and a refined comparison argument, along with uniform-in-time estimates for a functional involving nonlinear coupling between the unknowns and auxiliary functions. This talk is based on joint work with Philippe Laurençot.

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