SCMS Seminar

BLOW UP ANALYSIS FOR THE LIOUVILLE EQUATION WITH EXPONENTIAL NEUMANN BOUNDARY CONDITION

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Lecture

Time: 10:00-11:00, Thursday, Nov. 21, 2019

Venue: Room 1801, East Main Guanghua Tower, Handan Campus

Abstract: In this paper we will analyze the blow-up behaviors of solutions to the singular Liouville type equation with exponential Neumann boundary condition. We generalize the Brezis–Merle type concentration-compactness theorem to this Neumann problem. Then along the line of the Li – Shafrir type quantization property we show that the blow-up value $m(0) \in 2\pi N \cup \{2\pi(1+\alpha)+2\pi(N\cup\{0\})\}$ if the singular point 0 is a blow-up point. In the end, when the boundary value of solutions has an additional condition, we can obtain the precise blow-up value $m(0)=2\pi(1+\alpha)$.

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