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现在位置：首页 > 学术报告

Academy of Mathematics and Systems Science, CAS
Colloquia & Seminars

Speaker:	陈子恒副教授，云南大学
Inviter:	陈楚楚 副研究员
Title:	Large deviations principle for weighted means of a recursive numerical method for ergodic SDEs
Language:	Chinese
Time & Venue:	2023.02.02 19:00-20:00 腾讯会议ID：236-982-012
Abstract:	

For ergodic SDEs, their ergodic limits are usually approximated by the suitable means of numerical methods. To reveal the numerical asymptotic behavior, we study the large deviations principle (LDP) for weighted empirical means of a recursive numerical method, which is based on the Euler-Maruyama method with decreasing step for SDEs. It is derived by the contractive principle and the LDP for the corresponding weighted empirical measures. Instead of using the Gartner-Ellis theorem, we employ a weak convergence approach to establish the Laplace principle for the weighted empirical measures, which further yields the desired LDP result due to the equivalence between the Laplace principle and the LDP.

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