

数学与系统科学研究院

计算数学所学术报告

报告人: **Assistant Prof. Buyang Li**

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报告题目:

**Hodge decomposition of the dynamic
Ginzburg-Landau equations in
multi-connected nonsmooth domains**

邀请人: 郑伟英 研究员

报告时间: 2018 年 4 月 4 日 (周三)

上午 10:00--11:00

报告地点: 数学院科技综合楼

Z311 报告厅

报告摘要:

**In a general polygonal domain, possibly
nonconvex and multi-connected (with holes),**

the time-dependent Ginzburg-Landau equation is reformulated into a new system of equations by using the Hodge decomposition: decomposing the magnetic potential into its divergence-free part, curl-free part and harmonic part, separately. Global well-posedness of the new system and its equivalence to the original problem are proved. A linearized and decoupled Galerkin finite element method is proposed for solving the new system. The convergence of numerical solutions is proved based on a compactness argument by utilizing the maximal L^p -regularity of the discretized equations. Several numerical examples are provided to illustrate the efficiency of the proposed numerical method in both simply connected and multi-connected nonsmooth domains.

欢迎大家参加！