



## 复旦大学数学科学学院 数学综合报告会

报告题目: **Recent advances in Cahn-Hilliard system with dynamic boundary condition of GMS type**

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**摘要:** In this talk, recent advances in Cahn–Hilliard system with dynamic boundary condition of GMS type is treated. There are various studies of Cahn–Hilliard system with dynamic boundary condition. In 2011, G. R. Goldstein, A. Miranville and G. Schimperna introduced some equation and dynamic boundary condition of Cahn–Hilliard type. This system is constructed by Cahn–Hilliard system in the bulk and on the boundary, and has a structure of the total mass conservation, namely the volume in the bulk plus the boundary. Taking account of this structure, the well-posedness for GMS type was discussed for wider setting of potential in 2015. The first part of this talk is devoted to the above introduction. In the second part, the well-posedness of degenerate parabolic equation with dynamic boundary condition is discussed. The essential idea is to characterize the target degenerate parabolic equation as the asymptotic limit of Cahn–Hilliard system of GSM type. The approximate problem of Cahn–Hilliard systems can be solved with suitable uniform estimates. The growth condition of the maximal monotone graph with related to nonlinear diffusion term is a point of emphasis. The related topics are also treated in the last part. This study is based on the recent joint works with P. Colli (Pavia, Italy)

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