


复旦大学数学科学学院
数学综合报告会

报告题目：**Nonlocal Cahn-Hilliard-Navier-Stokes systems: regularity results in dimension two**

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报告地点：光华东主楼 1801

摘要： The Cahn-Hilliard equation was proposed in the late 1950's and has become central in understanding phase transition phenomena in many complex materials nowadays. The equation aims to describe the process of phase separation, by which the two components of a binary material spontaneously separate and form domains that are pure in each material component. After we revisit much of the history behind the classical form of the Cahn-Hilliard equation we move onto the modern approach which ultimately gives a generalized form of the Cahn-Hilliard equation that can be applied in more general situations (for instance, when the phase separation takes place in a heterogeneous environment). The latter equation reduces to the classical form under certain conditions or assumptions. Interesting mathematics is to be discovered in this new setting and surprisingly a better understanding of the classical form may be also accomplished within this setting.

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