

综合报告会

Lecture

国家数学与交叉科学中心

Time: 10:00 am, July 13, 2013

Venue: 703, Siyuan Building

Solvability of Cubic Graphs and The Four Color Theorem

演讲人：李东 教授

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Abstract:

We explore the edge coloring problem of cubic graphs by using the newly proposed complex coloring approach and assert that the minimum number of colors to color a geographical map and the angle-sum of a triangle are twin invariants of the two-dimensional plane. The analogy between these two propositions not only reveals the significance of the concept of complex coloring in graph theory, but also hints that a logical proof of the proposition of solvability may be impossible. That is, from the histories of parallel postulate and 4CT, we tend to think that describing these fundamental characteristics by even more elementary properties of the plane is inconceivable.

Furthermore, we also propose that a particular configuration, called generalized Petersen configuration, of a bridgeless cubic plane graph is always solvable; an immediate consequence of this proposition is the 3-edge-coloring theorem, or equivalently, the 4CT.

Brief CV:

李东教授, IEEE Fellow, 香港中文大学信息工程系讲座教授 (1993-2010), 现任上海交通大学电子工程系致远讲席教授。主要研究领域包括分组交换系统设计与分析, 通讯系统性能分析, 关系数据模型, 发表论文 80 余篇, 并拥有 5 项国际专利。曾获得 IEEE Leonard G. Abraham Prize Paper Award 等。