國 立 東 華 大 學 應 用 數 學 系
學 生 演 講

一、 主講人：蔡昇鑫

　　講　題：Isolated Singularity (in Complex Analysis)

　　時　間：99 年 6 月 9 日(星期三) 10:00-10:20

　　摘　要：

A singularity is a point at which a given function is not analytic (in complex analysis). A singularity is called isolated singularity if there is no other singularity close to it. We will give more strong definition of isolated singularity, and several kinds of isolated singularity in complex analysis. Some properties of isolated singularity help us to solve line integral.

References:

1. Jerrold E. Marsden, Michael J. Hoffman (1999). *Basic Complex Analysis*. 3rd edition. Freeman.

2. http://en.wikipedia.org/wiki/Singularity#Mathematics

二、 主講人：劉芳妤

　　講　題：預測市場的簡介與解釋其交易價格的意義
　　　　　　(Interpreting the Predictions of Prediction Markets)

　　時　間：99 年 6 月 9 日(星期三) 10:20-10:40

　　摘　要：

「預測市場」(prediction markets)是透過期貨或股票的交易方式買賣未來事件的合約，藉由交易者對未來事件的合約所購買的價格，來反應交易者預測未來事件發生的機率或結果。目前預測市場已廣泛的應用於政治、娛樂、經濟、體育等議題上，引發各界學者的討論及興趣。

此次報告除了簡單介紹預測市場的起源及其運作方式外，也引用 Charles F. Manski 在 2005 年所發表的 "Interpreting the Predictions of Prediction Markets"，針對預測市場顯示的交易價格的意義作探討，希望藉由此次報告能讓大家對於預測市場有初步的了解與興趣。

三、 主講人：林政忠

講 題：An Overview of "Is Roger Clemens' WHIP Trajectory Unusual?" by Albert (2009)

時 間：99 年 6 月 9 日(星期三) 10:40-11:00

摘 要：

In 2007, 『Mitchell Report』 exposed the fact that many baseball players in MLB, including Roger Clemens, use the performance-enhancing drugs. We are curious about whether Roger Clemens's career record is unusual? Albert (2009) used the WHIP (Walk and Hit per Inning Pitched) - one kind of pitcher's baseball data - to judge if the ability of a pitcher is good or bad, and constructed a kind of model to simulate the WIHP trajectory for all pitchers. After that he used multilevel model to compare Roger Clemens with other top pitchers' WHIP trajectories. Finally he was able to determine whether Roger Clemens's career pitching is unusual.

四、 主講人：杜國豪

講　題：IC-Coloring and IC-Indices of Some Graphs

時　間：99 年 6 月 9 日(星期三) 11:00-11:20

摘　要：

The postage stamp problem is concerned with how to assign the denominations of stamps such that we could take any rational value k from these stamps easily. This problem is equivalent to assigning colors or simply positive integer labels to the vertices of a connected graph G through an IC-coloring function. Let V(G) be the set of vertices of a connected graph G, and let $f: V(G) \rightarrow \mathbb{N}$ be a coloring. Defining $f(H) = \sum_{v \in V(H)} f(v)$ for any subgraph H of G, then f is called an IC-coloring if for any integer $k \in [1, f(G)] = \{1, 2, \ldots, f(G)\}$ there exists an induced connected subgraph H of G such that $f(H) = k$. In this talk, we introduce some results on the associated IC-index $M(G)$, where $M(G) = \max\{f(G): f$ is an IC-coloring of G$\}$.

References:

Douglas B. West. (2000). *Introduction to Graph Theory*. 2nd edition. Prentice-Hall.

Ebrahim Salehi , Sin-Min Lee and Mahdad Khatirinejad (2005). IC-Coloring and IC-Indices of graphs. Discrete Mathematics, 299, 297-310.

Chin-Lin Shiue and Hung-Lin Fu (2008). IC-Indices of Complete Bipartite Graphs. Electronic Journal of Combinatorics, 15, #R43.

上列演講皆於理學院A324會議室舉行

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