

國立中正大學數學系  
暨應用數學碩士班、統計科學碩士班  
學術演講

# A Review on Non-Archimedean Analysis: An Introduction to Ultrametric Spaces

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## Abstract

The difference between usual metric spaces and ultrametric spaces is the “level” of triangle inequality. Ultrametric spaces possess a stronger version of triangle inequality. With this behavior, there are much different results than usual metric spaces in Classical Analysis. This gives birth to the area so-called Non-Archimedean Analysis.

In this talk, we give a simple approach to Non-Archimedean Analysis including:

- An introduction to ultrametric spaces;
- The strong triangle inequality and some related amazing results that can't occur in Classical Analysis;
- The relation between strong triangle inequality and Archimedean property.

**KEYWORDS:** Archimedean property, strong triangle inequality, ultrametric, ultrametric space.

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