

THE UNIVERSITY



OF HONG KONG

*Institute of Mathematical Research
Department of Mathematics*

GEOMETRY SEMINAR

Transcendence properties of mixed period mappings

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Abstract

In 1971, Ax proved a function field analogue of Schanuel's conjecture for the exponentials. In the past decade, this theorem is extended geometrically in the variational Hodge theory setting. We will first review the history of the subject and mention some of its arithmetic applications in diophantine geometry. We will also review the o -minimal geometry and the strategies that are used in the proofs of the previous extensions of Ax-Schanuel. We will then explain how we combine these strategies with mixed Hodge theory and unipotent point counts to further extend Ax-Schanuel to mixed period mappings.

Date: September 17, 2021 (Friday)

Time: 10:30 - 11:30am (Hong Kong Time)

Venue: ZOOM: <https://hku.zoom.us/j/>

Meeting ID: 976 2989 8250

Password: 336623

All are welcome