

THE UNIVERSITY



OF HONG KONG

*Institute of Mathematical Research
Department of Mathematics*

SEMINAR

The conjectures of André-Oort and Zilbert-Pink

Professor G. Wüstholz
ETH Zürich, Switzerland

Date: June 20, 2013 (Thursday)

Time: 2:00 – 3:00pm

Venue: Room 210, Run Run Shaw Bldg., HKU

Abstract

In May and June 2012 I gave a mini-course at HKU on the conjectures of André-Oort and on diophantine approximations. There we lectured on a new proof in the situation that the Shimura variety is $P^1 \times P^1$ making the two existing proofs, one by André and one by Kühne, very structural. In the meantime we realized that one can also deal with a special case of the Pink conjecture which is an extension of the André-Oort conjecture to so-called mixed Shimura varieties. Interesting questions came up on the variation of the Neron-Tate height in families. This had been studied by Tate and we extend Tate's approach to a higher dimensional situation. A second problem arrived about the behavior of the absolute Weil height of values of the elliptic modular function at imaginary quadratic arguments. We use results of Ullmo to show that the heights are unbounded.

All are welcome