



THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY

Department of Mathematics

SEMINAR ON PURE MATHEMATICS

**Filtered Instantons and Concordance
of Satellites**

by

Ivan Chi Long SO
Michigan State University

Abstract

The linear independence of knots in the concordance group under satellite operation has been frequently studied in the field of knot theory. Most of the prior works focused on the independence of knots under a fixed satellite operation. In this talk, I will talk about my recent result which goes the other way: using the instanton filtration invariant r_s developed by Nozaki–Sato–Taniguchi, we show for a certain family of satellite patterns and fixed companion knot, such family of satellite knots are linear independent. We subsequently will show our criterion depends only on some classical and computable invariant for some specific cases.

Date : 19 September 2025 (Friday)

Time : 2:00p.m.-3:00p.m.

Venue : Room 3598 (Lift 25 & 26)

All are Welcome!