



THE HONG KONG UNIVERSITY OF SCIENCE TECHNOLOGY

Department of Mathematics

MATHEMATICS COLLOQUIUM

True minimum distances of some algebraic codes

By

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Abstract

In coding theory, there are some lower bounds on minimum distances of some algebraic codes, such as, the BCH bound and the Hartmann-Tzeng bound for cyclic codes, the designed distances of Goppa codes, generalized BCH codes and AG codes.

In general, it is very difficult to determine if the above lower bounds are actually the true minimum distances of these algebraic codes.

In this talk, we survey our recent joint works with C. Ding, Y. Chen, H. Lao, C. Xie, C. Liu, Z. Xie, Y. Yang, S. Dong, C. Li, X. Cao, G. Luo on determining true minimum distances of some families of BCH codes, Goppa codes and generalized BCH codes. We also prove that some families of cyclic codes attain their Hartmann-Tzeng bound.

Date : 18 September 2026 (Friday)

Time : 3:00pm - 4:00pm

Venue : Lecture Theatre K (near Lift 31/32)

All Are Welcome!