



香港中文大學
The Chinese University of Hong Kong

Institute of Theoretical Computer Science and Communications

ITCSC Seminar

" On Marton's achievable region and proof of an information inequality using a Caratheodory type argument"

By

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4:30pm - 5:30pm

Rm. 121, Ho Sin Hang Engineering Building, CUHK

Abstract:

In 2008, Zizhou Wang and I conjectured an information inequality for the BSSC channel, which would then imply: a) one can evaluate Marton's inner bound for BSSC, and b) BSSC becomes the first channel where the inner and outer bounds differed. Motivated by this example, Gohari and Anantharam proved cardinality bounds on the auxiliary random variables used in Marton's achievable region, and thereby numerically verified our conjecture. Further, they also showed that the inner and outer bounds differed without establishing the inequality.

In this talk, I will show two facts: a much simplified argument of cardinality bounds using a Caratheodory type reasoning, and the complete proof of the conjectured inequality.

This is joint work with Varun Jog, a summer intern (this year) from IIT Bombay.

***** ALL ARE WELCOME *****

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