



PROBABILITY AND INFORMATION THEORY SEMINAR

Linear Exact-repair Construction of Hybrid MSR Codes in Distributed Storage Systems

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Abstract

An $[n, k, d]$ -hybrid minimum storage regenerating(HMSR) codes is one class of minimum storage regenerating(MSR) codes with each storage node store two symbols in a distributed storage system(DSS). Due to the ability of reducing repair bandwidth and minimizing disk I/O cost, HMSR codes are proper to be used in practice. In this letter, we prove that there exists no linear, exact-repair HMSR codes when $k \geq 5$. A construction of $[6, 3, 4]$ -HMSR codes is designed in F_2 . Focused on $[4, 2, 3]$ -HMSR codes, a repair-by-transfer construction and the corresponding regenerating algorithm are proposed.

Date: August 11, 2014 (Monday)

Time: 11:00am – 12:00noon

Place: Room 309, Run Run Shaw Bldg., HKU

All are welcome