

1125-68-2462

Parikshit Gopalan, Guangda Hu, Swastik Kopparty, Shubhangi Saraf, Carol Wang and **Sergey Yekhanin***, yekhanin@microsoft.com. *Maximally recoverable codes.*

Data storage applications require erasure-correcting codes with prescribed sets of dependencies between data symbols and parity symbols (topology). A code as above is Maximally Recoverable (MR), if it corrects all erasure patterns that are information theoretically correctable given the dependency constraints. Applications furthermore need codes over small finite fields in order to facilitate encoding and decoding operations. In this talk we survey the state of the art in maximally recoverable codes and present the first super-polynomial lower bound for the field size of MR codes (in any topology). (Joint work with Parikshit Gopalan, Guangda Hu, Swastik Kopparty, Shubhangi Saraf, and Carol Wang). (Received September 20, 2016)