

Optimal Communication-Distortion Tradeoff in Voting

Debmalya Mandal (Columbia), Nisarg Shah (UofT), and David Woodruff (CMU)

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► **Communication** ($C(f)$): No. of bits reported by each voter

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► Optimal communication for a desired distortion d :

Elicitation	Voting	k -Selection
Deterministic	$\tilde{\Theta}(m/d)$	$\tilde{\Theta}(m/(kd))$
Randomized	$\tilde{\Theta}(m/d^3)$	$\tilde{\Theta}(m/(kd^3))$