Results

ullet A protocol using a $O(c_f[s]\cdot \mathsf{polylog}(n)/arepsilon^2)$ bits of communication

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• The $\Omega(s^{p-1}/arepsilon^2)$ lower bound can be extended to general functions to show $\Omega(c_f[s]/\varepsilon^2)$ lower bound

• Requires that $c_f[s]$ is realized for $y_1 = y_2 = \cdots = y_s$

 $f(y_1 + \dots + y_s) \le \frac{c_f[s]}{s} \left(\sqrt{f(y_1)} + \dots + \sqrt{f(y_s)} \right)^2$

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Fast and Space Optimal Streaming Algorithms

with Mikkel Thorup, Rasmus Pagh and David Woodruff [FOCS '23]