Our Results

- Theorem: For p>2, there is an algorithm using optimal $\tilde{O}(n^{1-2/p})$ bits of space
 - and an **update time of** O(1) to approximate $F_n(x)$ up to constant factors

• Improves on $poly(\log n)$ update time of earlier works such as [Andoni, Krauthgamer, Onak '10]

• Theorem: For $0 , can approximate <math>F_p(x)$ up to $1 \pm \varepsilon$ using optimal $O(\varepsilon^{-2}\log n)$ bits of space and $O(\log n)$ update time

• Improves on $O(\log^2 n \log \log n)$ update time of [KNPW '11]

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