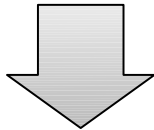


Linear Optics Sampling



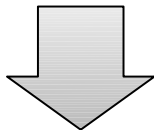
Main
Theorem

$$|\text{GPE}|_{\pm}^2 \in \text{BPP}^{\text{NP}}$$



Permanent
Anti-Concentration
Conjecture

$$\text{GPE}_{\times} \in \text{BPP}^{\text{NP}}$$



Permanent of
Gaussians
Conjecture

$$\text{P}^{\# \text{P}} = \text{BPP}^{\text{NP}}$$



Toda's
Theorem

Polynomial Hierarchy Collapses