

## *The Planted Gaussian Problem*

A standard Gaussian matrix (entries from  $N(0,1)$ ) has a  $k$  by  $k$  "planted" part, where, the entries are drawn from  $N(\mu,1)$ . SVD based method (akin to planted clique) finds the planted part if  $\mu > c\sqrt{n}$ . A simple observation improves the requirement to:  $\mu > c \sqrt{\log(\sqrt{n}/k)}$ . Questions of the best  $c$  and whether  $\mu \in o(\sqrt{\log(\sqrt{n}/k)})$  cannot be solved are open.