Nov 2

Perturbation trick

Idea: Add to i^{th} edge a cost $\frac{i}{2n^2m}$

How much can this change the total cost of an MST?

In the worst case add the largest $n-1$ perturbations

total perturbation $\leq \frac{m}{2n^2m} + \frac{m-1}{2n^2m} + \cdots \frac{m-n+1}{2n^2m}$

$< \frac{m \cdot n}{2n^2m} = \frac{1}{2}$