Recursion Code.

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Abstract

None

1 Construction.

Definition 1. *Let Δ be an integer greater than 2 and consider an alogrithm $\mathcal{A}$ that for any n that is power of 3 construct a Δ-regular graph over n vertices. Now, let G be Δ-regular graph over n vertices generated by $\mathcal{A}$. Define the* **third graph obtained by G, labeled by $G^{\sim}$ to be the graph which $\mathcal{A}$ returns over $\frac{1}{3}n$ such that any of the edges could be associate by puncturing a $\frac{2}{3}$ fraction of the egdges of each vertex.**

The Code. Let $C\left(\frac{1}{2}\Delta n\right)$ be the code defiend by the joiningthe parity check matrix of a Tanner code over Δ-regular graph and