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Generalized regularity lemma for graphs. Preliminary report.

We prove that if G is a quasi-random graph, $F \subset G$ and $\varepsilon \in (0, 1)$ then it is possible to partition its vertex set into ℓ_ε clusters such that the distribution of the edges of F among these clusters is ε -pseudo-random relative to the edges of G for all but at most ε proportion of the cluster pairs. The result generalizes Szemerédi's Regularity Lemma for certain sparse F s. (Received February 06, 2008)