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Stability for matchings in regular tripartite hypergraphs

We consider a hypergraph analogue of the basic fact that every regular bipartite graph has a perfect matching. A theorem of Aharoni implies that every regular tripartite hypergraph H with n vertices in each class has a matching of size at least $n/2$, and moreover this bound is tight. We prove a stability version of this statement, showing that if H has matching number close to $n/2$ then it is correspondingly close in structure to the extremal configuration.