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Maximum density of exact copies of a subgraph of the d-cube in the n-cube

Let H be a subgraph of the d-cube. If J is a subgraph of a large n-cube, what is the maximum density of d-cube subgraphs of the n-cube whose intersection with J is precisely H? We answer this question when H is a perfect matching of parallel edges. We discuss the difficulties when H is a single edge. We show the maximum density is 15/16 when H is a single edge in the 2-cube, with host graph a large Hamming ball of radius 3, rather than the n-cube.