Hamed Hatami* (hatami@cs.mcgill.ca), Pooya Hatami and Yaqiao Li. A characterization of functions with vanishing averages over products of disjoint sets.

We characterize all integrable functions $f : [0,1]^m \to \mathbb{R}$ satisfying $\int_{A_1 \times \ldots \times A_m} f = 0$, for any collection of disjoint sets $A_1, \ldots, A_m \subseteq [0,1]$ with prescribed measures. We use this characterization to settle some conjectures of Janson and Sös on pseudo-random graph properties. (Received September 05, 2015)