

Multicoloured Containers and Graphon Entropy (Part II)

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In recent breakthroughs, Saxton–Thomason [1] and Balogh–Morris–Samotij [2] developed powerful theories of containers. Their results have had many important applications in counting and characterizing typical graphs with a given property. We generalise their container results to multicoloured containers and arbitrary hereditary graph properties. Using the multicoloured containers we recover some of the graph entropy results due to Hatami–Janson–Szegedy [3] and extend them to k -decorated graphons. Conversely, we show how container results can be deduced from statements on the entropy of graph limits.

Keywords: graphons, containers, entropy

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[2] Balogh, J. Morris, R. Samotij, W. **Independent sets in hypergraphs**. *J. Amer. Math. Soc.* 28 (2015), no. 3, 669–709.

[3] Hatami, H. Janson, S. Szegedy, B. **Graph properties, graph limits and entropy**. arXiv:1312.5626 [math.CO].