

Permutation snarks

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A permutation snark is a cubic graph with no 3-edge-colouring that contains a 2-factor consisting of two induced circuits. In the talk we analyse the basic properties of permutation snarks, focusing on the structure of edge-cuts of size 4 and 5. As an application of our knowledge we provide rich families of cyclically 4-edge-connected and 5-edge-connected permutation snarks of order $8n+2$ for each integer $n \geq 2$ and $n \geq 4$, respectively, superseding a recent work of J. Hägglund and A. Hoffmann-Ostenhof [1].

References

- [1] J. Hägglund, A. Hoffmann-Ostenhof, Construction of permutation snarks, arXiv:1208.3230v1.