

Treelike Snarks

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In this talk we present snarks whose edges cannot be covered by fewer than five perfect matchings. Esperet and Mazzuocolo found an infinite family of such snarks, generalising an example provided by Hägglund. We construct another infinite family, arising from a generalisation in a different direction. The proof that this family has the requested property is computer-assisted. In addition, we prove that the snarks from this family (we call them *treelike snarks*) have circular flow number $\phi_C(G) \geq 5$ and admit a 5-cycle double cover.

Keywords: Snark; excessive index; circular flow number; cycle double cover.