

Progress towards new examples of knot-filtered ECH

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Knot-filtered embedded contact homology is an invariant of an elliptic Reeb orbit of any contact form for a given contact structure on a closed, oriented three-manifold. It was introduced in a 2016 paper of Hutchings and enables embedded contact homology (ECH) to recover the Calabi invariant of the return map of a global surface of section of the Reeb vector field. Knot-filtered ECH is an invariant of the contact structure rather than the contact form, so it would be interesting to know what features of the contact structure it records. We will explain work in progress with Jo Nelson towards computing the knot filtered ECH of the right- and left-handed trefoil knots as elliptic orbits for different contact structures on S^3 .

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