

Jo Nelson (Rice University): Embedded Contact Homology of Prequantization Bundles

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In 2011, Farris provided a means of computing \mathbb{Z}_2 -graded embedded contact homology (ECH) of prequantization bundles over Riemann surfaces, producing an isomorphism between ECH of the bundle and the exterior algebra of the homology of the base. In joint work with Morgan Weiler, we upgrade to a full \mathbb{Z} -grading on the chain complex and obtain a stabilization result. We additionally explain how to make the Morse-Bott computations rigorous by means of the direct limits for filtered ECH established in Hutchings-Taubes proof of the Arnold-Chord conjecture. We comment on future work on knot filtered ECH of certain Seifert fiber spaces.