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Shapes of sextic $C_3 \wr C_2$ -fields: equidistribution, Malle's conjecture, and detection of log terms in Klüners; counterexample.

In this talk, we'll discuss the shapes of sextic extensions of \mathbb{Q} containing a fixed quadratic subfield. Specifically, those sextic extensions appearing as subfields of $C_3 \wr C_2$ -fields. In 2004 Klüners gave a counterexample to Malle's conjecture, which predicts asymptotic behavior of number fields with specified invariants, by studying the asymptotics of C_3 extensions of $\mathbb{Q}(\sqrt{d})$: he finds that, when $d = -3$, the fields contribute to showing the conjecture is false as it fails to detect the $\log(X)$ term in the asymptotics. We'll introduce the notion of relative shape, show equidistribution results, and also show how the shape allows us to detect this additional term in the asymptotics. (Received September 25, 2018)