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Local heights on hyperelliptic curves for quadratic Chabauty

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Abstract: The method of quadratic Chabauty is a powerful tool to determine the set of rational points on curves. A key input for this method is the values of local height functions. In this talk, we will discuss an algorithm to compute these local heights at odd primes v not equal to p for hyperelliptic curves. Through applications, we will see how this work extends the reach of quadratic Chabauty to curves previously deemed inaccessible. This is joint work with Alexander Betts, Sachi Hashimoto, and Pim Spelier.

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