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**The Parallelized Pollard Kangaroo Method in Real
Quadratic Function Fields**

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Abstract We show how to use the parallelized kangaroo method for computing invariants in real quadratic function fields. Specifically, we show how to apply the kangaroo method to the infrastructure in these fields. We also show how to speed up the computation by using heuristics on the distribution of the divisor class number, and by using the relatively inexpensive baby steps in the real quadratic model of a hyperelliptic function field. Furthermore, we provide examples for regulators and class numbers of hyperelliptic function fields of genus 3 that are larger than those ever reported before.