1067-11-1191 **Michael J Jacobson, Jr.*** (jacobs@cpsc.ucalgary.ca), Department of Computer Science, University of Calgary, 2500 University Drive NW, Calgary, Alberta T2N 1N4, Canada. *Class Group and Regulator Computation in Quadratic Fields.*

The ideal class group and regulator of a quadratic field are well-studied and widely-used invariants, applicable to such diverse areas as integer factorization, Diophantine equation solving, and public-key cryptography. In this talk, we discuss the state-of-the-art of algorithms for their computation, as well as possible future directions and obstacles with respect to improvements. (Received September 20, 2010)