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Tatyana Chmutova* (chmutova@umich.edu), Department of Mathematics, University of Michigan, 530 Church St, Ann Arbor, MI 48109. *Continuous Hecke algebras*. Preliminary report.

Continuous Hecke algebras were introduced by P. Etingof, W. L. Gan and V. Ginzburg as a generalization of Hecke algebras to the case of reductive algebraic groups. We will consider two important special cases of these algebras: continuous Cherednik algebras, and algebras arising from symmetric pairs of reductive groups. These examples show that the representation theory of continuous Hecke algebras, which is not yet developed, should unify the representation theories of real reductive groups and symplectic reflection algebras. We will discuss some general facts about representations of continuous Cherednik algebras and consider in detail the continuous Hecke algebra of type $GL(2)$. (Received January 22, 2007)