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Nicolas M. Thiéry*, Department of Mathematics, 1, Shields Av., Davis, CA 95616, and **Anne Schilling** and **Florent Hivert**. *Hecke group algebras*.

We introduce and describe the Hecke group algebra $HC[W]$ of a finite Coxeter group W . Its original construction is by appropriate gluing of the 0-Hecke algebra and the group algebra of W , but it turned out to admit several other equivalent definitions, in particular as algebra of symmetry preserving operators, or digraph algebra. Its representation theory is rooted in the combinatorics of descents, and the Grothendieck bialgebra associated to the type A tower gives classical and new bases of NCSF.

When W is a Weyl group, we show that, for q not a root of unity, the Hecke group algebra is further a natural quotient of the affine q -Hecke algebra of W , via its level 0 action, or alternatively via its calibrated representation for the spectral parameters $1, q, q^2, \dots$

Time permitting, we will mention connections with the Frahm-Polychronakos physics model. (Received March 07, 2008)