1127-81-238   **Tianyuan Xu*** (`tianyuan@uoregon.edu`), Department of Mathematics, University of Oregon, Eugene, OR 97403. *Based rings attached to generators of Coxeter groups.*

The asymptotic Hecke algebra J of a Coxeter group W is an associative algebra constructed from the Hecke algebra of W by G. Lusztig. The algebra J naturally has the structure of a *based ring* and appears as the Grothendieck ring of a tensor category associated to W. We study subalgebras J_s of J corresponding to the simple reflections of W and discuss two results. First, we show that all *fusion rings* appearing in the form J_s are isomorphic to the odd part of a *Verlinde algebra* of the Lie group $SU(2)$. Second, we show that for suitable choices of Coxeter groups and simple reflections, the algebras J_s are isomorphic to certain *free fusion rings*; this connects J and its associated tensor category to certain *partition quantum groups* arising from operator algebra theory. (Received February 04, 2017)