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**Tianyuan Xu\*** ([tianyuan@uoregon.edu](mailto:tianyuan@uoregon.edu)), Department of Mathematics, University of Oregon,  
Eugene, OR 97401. *The subregular part of asymptotic Hecke algebras*. Preliminary report.

The asymptotic Hecke algebra  $J$  of an arbitrary Coxeter system  $(W, S)$ , constructed by G. Lusztig, is an associative algebra closely related to the usual Iwahori-Hecke algebra of the system. In this talk, we will recall the construction of  $J$  via Kazhdan-Lusztig polynomials and present results on a subalgebra of  $J$  corresponding to a special 2-sided Kazhdan-Lusztig cell of  $W$ . In particular, we show how products in this subalgebra can be computed combinatorially without inputs from Kazhdan-Lusztig polynomials, and we describe the structure of the subalgebra for various families of Coxeter systems. (Received August 29, 2016)