1067-06-663 **Jeremiah William Johnson*** (jwj10@psu.edu), Penn State Harrisburg, W-255 Olmsted, 777 W. Harrisburg Pike, Middletown, PA 17057. *Admissible Orders on Quotients of the Free Associative Algebra.*

An admissible order on a multiplicative basis of a noncommutative algebra is a term order satisfying additional conditions that allow for the construction of Gröbner bases. E. Hinson has used position-dependent weights encoded in so-called *admissible* arrays to partially order words in the free associative algebra in a way which produces a length-dominant admissible order on a particular quotient of the free algebra. The ideal by which the quotient is taken, the so-called *weight ideal*, is generated by pure homogeneous binomial differences and is determined by the array.

In this talk I will discuss the weight ideals associated to two families of admissible arrays. The weight ideals associated to an array in the first class is finitely generated and we can describe its generating set. The weight ideals associated to arrays in the second class may be trivial, may be nontrivial but finitely generated, or may not admit a finite generating set. (Received September 13, 2010)