1046-20-1211 **Andrew Francis** and **Lenny Jones*** (lkjone@ship.edu), Department of Mathematics, Shippensburg University, Shippensburg, PA 17257. *Quasi-Multiplicative Bases for the Center of the Iwahori–Hecke Algebra of Type A.* Preliminary report.

Let $Z(\mathcal{H}_n)$ denote the center of the Iwahori–Hecke algebra $\mathcal{H}_n$ of the symmetric group S_n over $\mathbb{Z}[q, q^{-1}]$, and let $p(n)$ be the number of partitions of n. A basis $\{b_1, b_2, \ldots, b_{p(n)}\}$ for $Z(\mathcal{H}_n)$ is called *quasi-multiplicative* if for any basis elements b_i and b_j, there exists a basis element b_k and a polynomial $f \in \mathbb{Z}[q, q^{-1}]$ such that $b_i b_j = f b_k$. If $f = 1$ in all possible cases, then the basis is called *multiplicative*. An element $e \in Z(\mathcal{H}_n)$ is called *quasi-idempotent* if $e^2 = fe$ for some polynomial $f \in \mathbb{Z}[q, q^{-1}]$. We show that any quasi-multiplicative basis for $Z(\mathcal{H}_n)$ must consist of quasi-idempotents, and we determine all such bases, up to scalars, when $n = 3$ and $n = 4$. In addition, we answer a question of Jie Du (private communication) by showing for all n that no multiplicative basis for $Z(\mathcal{H}_n)$ exists. (Received September 15, 2008)