1046-13-1810 **Mohammed S Tesemma*** (mtesemma@spelman.edu), Spelman College, 350 Spelman Lane, SW, Box. 376, Atlanta, GA 30314. *Initial algebra of multiplicative invariants.*

Let's consider the Laurent polynomial ring $k[X^{\pm 1}] := k[x_1^{\pm 1}, \ldots, x_n^{\pm 1}]$, over a base fileld k. Let $G \leq GL_n(\mathbb{Z})$ act "*multiplicatively*" on $k[X^{\pm 1}]$. We characterize the cardinality of distinct initial algebras of the invariant ring $k[X^{\pm 1}]^G$ over all possible monomial orders on $k[X^{\pm 1}]$. (Received September 16, 2008)