1054-16-199   **Jason P Bell*** (`jpb@math.sfu.ca`), 8888 University Dr., Burnaby, BC V5A1S6, Canada, **Karel Casteels**, 8888 University Dr., Burnaby, BC V5A1S6, Canada, and **Stephane Launois**, Canterbury, Kent CT27NF, England. *Enumeration of torus-invariant primitive ideals in quantum matrices.*

Goodearl and Letzter showed that the prime ideals of the ring of $m \times n$ quantum matrices that are invariant under the natural action of the torus $(\mathbb{C}^*)^{m+n}$ is finite; moreover, they showed that the prime spectrum breaks up into strata that are paramaterized by these torus-invariant primes. Cauchon later gave an explicit formula for the number of torus-invariant primes in $m \times n$ quantum matrices. We show how one can do an even finer enumeration, in which one counts the number of torus-invariant primes in $m \times n$ quantum matrices whose stratum is d-dimensional. More generally, we give an explicit characterization of the torus-invariant primes whose stratum is d-dimensional. This is joint with Karel Casteels and Stephane Launois. (Received September 14, 2009)

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