1115-22-244 **Mark Reeder*** (reederma@bc.edu). *Dyadic Exercises in Exceptional Groups.* Preliminary report.

Let Γ be the absolute Galois group of the field $\mathbb{Q}_2$ of dyadic numbers and let $\mathfrak{g}$ be a simple complex Lie algebra of rank r. We study the Swan conductors $sw(\varphi,\mathfrak{g})$ of continuous representations $\varphi:\Gamma\to G$, where G is the group of inner automorphisms of $\mathfrak{g}$.

Conjecture: *Assume that φ is totally ramified. Then $sw(\varphi,\mathfrak{g})\geq r$ and if $sw(\varphi,\mathfrak{g})=r$ then φ is unique up to conjugacy in G.*

There is a variant of this conjecture for more general representations $\varphi:\Gamma\to Aut(\mathfrak{g})$. The conjecture is known for $\mathfrak{g}$ of type A_n and G_2. In general it is implied by the Local Langlands Conjecture.

Let $\mathfrak{h}<\mathfrak{k}<\mathfrak{g}$ be the natural chain of Lie algebras of type D_4, F_4 and E_6. We verify the inequality in the conjecture for $\mathfrak{k},\mathfrak{g}$ and its variant for the triality group $H\cdot 3<Aut(\mathfrak{h})$, and we describe a solvable filtered subgroup $D<H\cdot 3$ of order $64\cdot 21\cdot 64\cdot 8\cdot 4$ such that if the Swan conductor of φ attains its lower bound in any of the three cases then the image of φ is conjugate to D. (Received September 20, 2015)