

Corrections to the paper
“Finite groups over arithmetical rings
and globally irreducible representations ”
by F. Van Oystaeyen and A.E. Zalesskiĭ,
J. Algebra 215(1999), 418 - 436

1. The definition 1.3 on page 419 of a globally irreducible representation has to be refined as follows.

1.3. Definition. Let F be an algebraic number field and let R be its ring of integers. A group $G \subset GL(n, F)$ is called globally irreducible if for each non-archimedean valuation ν of F a reduction of G modulo ν is absolutely irreducible.

2. page 421, line 15: replace ‘the Brauer reduction’ by ‘a Brauer reduction’.

3. page 421, line 18: replace ‘Let L be the ring of p -integers’ by ‘Let ν be a p -adic valuation of F and L be the ring of ν -integers of F .’

Comments:

If ν is fixed then a reduction of G modulo ν is meant as follows. Let R_ν denote the ring of ν -integers of F , let I_ν be the maximal ideal of R_ν and $P = R_\nu/I_\nu$. Then G is conjugate to a subgroup $G_1 \subseteq GL(n, R_\nu)$. The natural homomorphism $GL(n, R_\nu) \rightarrow GL(n, P)$ induces a homomorphism $G_1 \rightarrow GL(n, P)$ which is called the reduction of G_1 modulo ν or a reduction of G modulo ν . By a Brauer-Nesbitt theorem the list of the composition factors of $G(\text{mod } \nu)$ is independent from the choice of G_1 . As ν is non-archimedean, there is a prime p such that $p \in I_\nu$. In contrast with the Brauer-Nesbitt theorem the list of the composition factors of $G(\text{mod } \nu)$ (and the number of them) can change when one choose another valuation ν with $p \in I_\nu$.