A CORRECTION TO MY PAPER "ON THE NON-COMMUTATIVITY OF PONTRJAGIN RINGS MOD 3 OF SOME COMPACT EXCEPTIONAL GROUPS"

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This note is a correction of an error of the author's paper mentioned in the title. (The reference [1]). The proof of the Prop. 6 of [1], Chap. II, p. 247, is an error. And the propositions and formulas in pp. 247-249 of [1] depending on this Prop. 6 must be corrected. All notations are referred to [1].

1. We continue the discussion of [1, p. 246]. The singular planes of Q are partially ordered by the ordering of associated planes in P. Give a linear order in Q compatibly with this partial order. Then any subsequence Q_k of length k gives a $2k$-dimensional sub E_6-cycle $\Gamma(Q_k)$ of $\Gamma(fP)$. The totality of these $2k$-dimensional E_6-cycles forms an additive basis of $H_{2k}(\Gamma(fP):Z)$. The dual cohomology class of $\Gamma(Q_k)$ is $y_{i_1}^{(\varepsilon_1)}\cdots y_{i_k}^{(\varepsilon_k)}$ for $Q_k=\{q_{i_1}^{(\varepsilon_1)},\ldots,q_{i_k}^{(\varepsilon_k)}\}$ where $\varepsilon_s=0$ if ρ_{i_s} is a long root of F_4 and $\varepsilon_s=1$ or 2 if ρ_{i_s} is a short root.

Now the Prop. 6, Chap. II of [1], must be corrected as follows:

PROPOSITION 6. *The $2k$-cycles $f_P\Gamma(P)$ and*

$$\sum x_{i_1}\cdots x_{i_k}(\Gamma(P))\cdot\Gamma(\{q_{i_1}^{(\varepsilon_1)},\ldots,q_{i_k}^{(\varepsilon_k)}\})$$

represent the same class in $H_{2k}(\Gamma(fP):Z)$, where the summation runs over all subsequences $\{q_{i_1}^{(\varepsilon_1)},\ldots,q_{i_k}^{(\varepsilon_k)}\}$ of length k of Q.

Since $f_P^*(y_{i_1}^{(\varepsilon_1)}\cdots y_{i_k}^{(\varepsilon_k)})=x_{i_1}\cdots x_{i_k}$ by (11) of [1, p. 246], a standard argument proves this proposition immediately. The crucial of the erroneous statement of the Prop. 6 lies in what the author had overseen that the $2k$-cohomology class such as $(x_2)^2x_3\cdots x_k$ is not necessarily zero in general.

The Prop. 7 of [1, p. 547] should be corrected as follows:

PROPOSITION 7. $\Omega f_*(P_*)=\sum x_{i_1}\cdots x_{i_k}(\Gamma(P))\cdot\{q_{i_1}^{(\varepsilon_1)},\ldots,q_{i_k}^{(\varepsilon_k)}\}_*$ *where Ωf_* denotes the homology map induced by Ωf and the summation is the same as in*

Received June 23, 1961.