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## Erratum to “Classification of simple knots by Levine pairings”

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Theorem 2 and Corollary 1 on p. 366 are false and have to be corrected as follows.

Let  $K$  be an odd simple fibered  $2q$ -knot and let  $V$  be its simply-connected minimal Seifert manifold. Corresponding to any direct sum decomposition  $H_q(V) \approx A \oplus B$ , where  $A$  is free abelian and  $B$  is torsion, we can find a geometric splitting  $V = T \natural F$  such that  $H_q(F)$  turns out to be the direct summand  $A$  and the structures of  $T$  and  $F$  are the same as we discussed in [1, 2] respectively. Suppose two knots  $K_0, K_1$  have the same Seifert forms of their Seifert manifolds  $V_0$  and  $V_1$ . Since the isomorphism classes of the 1st and 2nd Seifert forms depend only on  $H_q(V)/\tau H_q(V)$ , taking geometric splittings  $V_0 = T_0 \natural F_0$  and  $V_1 = T_1 \natural F_1$  corresponding to some systems of generators, we shall construct an isotopy. To isotope  $T_0$  to  $T_1$ , we can use the same argument in §3 [1]. But to isotope  $(0\text{-handle}) \cup (q\text{-handles})$  of  $F_0$  to that of  $F_1$  in the complement of  $T_0 = T_1$ , no information is given by Seifert forms, and we need the intermediate Seifert form of  $V = T \natural F$

$$\theta : H_q(T) \otimes H_q(F) \rightarrow \mathbf{Q}/\mathbf{Z}$$

defined by  $\theta(\alpha, \beta) = L(\alpha, \beta_+)$  where  $\beta_+$  is the push of  $\beta$  off  $V$  and  $L( , )$  denotes the  $\tau$ -linking number. Although the splitting disk in  $V = T \natural F$  is not unique even up to isotopy, the isomorphism class of  $\theta$  depends only on the choice of a system of generators of  $H_q(V)$ . If there are systems of generators of  $H_q(V_0), H_q(V_1)$  which give the same intermediate Seifert form, then we can isotope  $0, q$ -handles of  $F_0$  to that of  $F_1$ . Once we have done this, all we need for the rest is the same procedure as in [2]. To verify the converse, we may use the monodromy action on  $H_q(V)$ . Actually knowing Seifert forms is equivalent to knowing monodromy actions on  $H_q(V)$  and  $\pi_{q+1}(V)$ . Thus Theorem 2 should be corrected by adding “the intermediate Seifert form” in the statement.

This implies Corollary 2 but not Corollary 1. A counterexample to this can be constructed. The author would like to thank M. Farber for pointing this out.

REFERENCES

- [1] KOJIMA, S., *Classification of simple knots by Levine pairings*. *Comment. Math. Helv.* 54 (1979) 356–367
- [2] KOJIMA, S., *A classification of some even dimensional fibered knots*. *J. Fac. Sci. Univ. Tokyo* 24 (1977) 671–683

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