Erratum to "Classification of simple knots by Levine pairings".

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Objekttyp: **Corrections**

Zeitschrift: **Commentarii Mathematici Helvetici**

Band (Jahr): **55 (1980)**

PDF erstellt am: **17.07.2024**

Comment. Math. Helvetici **55** (1980) 652–653 Birkhäuser Verlag, Basel

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-handle) $\cup$ (q-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 $V = T \natural F$

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

defined by $\theta(\alpha, \beta) = L(\alpha, \beta_+)$ where β_+ is the push of β off V and $L(\ , \ )$ denotes the τ-linking number. Although the splitting disk in $V = T \natural F$ is not unique even up to isotopy, the isomorphism class of θ 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.

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Received August 19, 1980