

LMMO-Gauthier Cheat Sheet

November-20-10
1:39 PM

Band sums for \mathbb{Z}

$$a := z_0(\cap) = z_0(\cup) = z_0(\cap) = z_0(\cup) = z_0(\cap) = z_0(\cup) = \dots$$

Likewise,
 $b := z_0(\cup) = z_0(\cap) = \dots$, yet

$$v \circ v^{-1} = z_0(\cup \cap) = z_0(\cap \cup) = b a \Delta(v^{-1})$$

So $b \cdot a = \Delta(v) \cdot v^{-1} \circ v^{-1}$ hence

$$z(\cup \cap) = \dots \frac{\text{long slides}}{\dots} \dots$$

Band sums on unknots.

$S^{para} A(O_2) \rightarrow A(O_2)$
 $S^{para} \mathbb{Z}(O_2) \rightarrow \mathbb{Z}(O_2)$

Band Sums For \mathbb{Z}

$N: A(O_2) \rightarrow A(O_2)$
 by $\cap \cap \rightarrow \cap \cap$
 $\mathbb{Z} = N \circ \hat{\mathbb{Z}}: \mathbb{Z}(O_2) \rightarrow A(O_2)$

Looking on right, we need to compute $N \circ S \circ N^{-1}$

$S: A(O_2) \rightarrow A(O_2)$
 is $\cap \cap \rightarrow \cap \cap$
 $N \circ S \circ N^{-1}$

Looking back, we need to compute $N \circ S \circ N^{-1}$

yellow kill each other, \cap kills \cup . As billed.

Fixing Gauthier's approach.

The First mistake.

From Gauthier's arXiv: 1010.2422v2 page 50:

Lemma 3.2.4. $c^{(2)+}(a, \epsilon) \cdot c^{(2)-}(a, \epsilon) = 1$ for all $a, \epsilon > 0$.

Proof. It suffices to write, for $a, \epsilon > 0$ fixed:

$$c^{(2)+}(a, \epsilon) \cdot c^{(2)-}(a, \epsilon) = Z(\cap) \times Z(\cup) = Z(\cap \cup) \quad (186)$$

This is true only in $A(O_2)$, not in $A(\mathbb{1}_2)$!