

Only homology cycles in an index 2 subgroup \mathcal{H} of $H_1(\mathbb{T}^2)$ can pass through the line of curled tori.

Parallel transport along Γ induces an automorphism of \mathcal{H} and there is a basis of \mathcal{H} in which the automorphism is represented by the matrix $\begin{pmatrix} 1 & 0 \\ 1 & 1 \end{pmatrix}$.

In a basis of $H_1(\mathbb{T}^2)$ the last matrix takes the form $\begin{pmatrix} 1 & 0 \\ \frac{1}{2} & 1 \end{pmatrix}$.