ERRATA TO STABLY ERGODIC SKEW PRODUCTS

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The statement of the lemma should be amended to

**Lemma.** Let $f$ be a measure preserving, Anosov diffeomorphism of $\mathbb{T}^n$ and $f_1$ be the induced map on the fundamental group of $\mathbb{T}^n$. Let $\varphi$ be in $H\ddot{o}l(\mathbb{T}^n, S^1)$. If $f_\varphi$ is not ergodic then $\varphi^{\text{det}(I-f_1)}$ is cohomologous to a constant function, $\exp(2\pi i \frac{k}{r})$, for some $k, r \in \mathbb{Z}$.

**Proof.** The proof is the same down to following the line. We take the maps $\varphi$ and $h_r$ induce on the fundamental groups and get the equation

$$r \varphi (h_r) = (h_r) f_1 (I - f_1).$$

Since $f$ is Anosov $(I - f_1)$ is invertible over $\mathbb{Q}$ and $\text{det}(I - f_1)(I - f_1)^{-1}$ is an integer matrix. It follows that there is a map $g_1$ on the fundamental group with

$$r g_1 = \text{det}(I - f_1)(h_r).$$

By standard covering space arguments we can conclude there is a $g$ in $H\ddot{o}l(\mathbb{T}^n, S^1)$ with $(g)^r = (h_r) \text{det}(I - f_1)$.

The rest of the proof follows as before. \quad \square

The proof of the theorem also follows as before. Thanks to Amy Wilkinson for pointing out the mistake.

We take this opportunity to add a reference to a paper which should have been included in our original paper.

**REFERENCES**