0.1. Details on the proof of Theorem 7.

We explicate the details of one step in the argument for Theorem 7 in response to receiving several questions about it. Lines 2 through 4 of page 428, in the chain of inequalities in the proof of Theorem 7, involve the inequality,

$$\sum_{\ell=0}^{L-1} \mu(T^{-\ell-v_n}(B) \cap B) \leq (1-\delta\delta_1)\mu(B).$$

Now, $T^{-\ell-v_n}(B) = B_{-\ell-v_n \mod L}$ ranges over $B_0, \ldots, B_{L-1}$. Let ℓ' denote the value in $\mathbb{Z}_L$ such that $-\ell' - v_n \mod L = 0$.

Recall from the proof that we have $\rho_n(\ell) \leq (1-\delta_1)$ for all $\ell \in \mathbb{Z}_L$ and $\mu(B_\ell \cap B) \leq (1-\delta)\mu(B)$ for all $\ell \neq 0$. The construction of ρ_n also gives that $\sum_{\ell=0}^{L-1} \rho_n(\ell) = 1$. So,

$$\begin{aligned}
&\sum_{\ell=0}^{L-1} \rho_n(\ell)\mu(T^{-\ell-v_n}(B) \cap B) \\
&\qquad = \sum_{\ell=0}^{L-1} \rho_n(\ell)\mu(B_{-\ell-v_n \mod L} \cap B) \\
&\qquad = \rho_n(\ell')\mu(B_0 \cap B) + \sum_{\ell=0, \ell\neq\ell'}^{L-1} \rho_n(\ell)\mu(B_{-\ell-v_n \mod L} \cap B) \\
&\qquad \leq \rho_n(\ell')\mu(B) + (1-\rho_n(\ell'))(1-\delta)\mu(B) \\
&\qquad \leq \max\left\{(1-\delta_1)\mu(B) + (1-(1-\delta_1))(1-\delta)\mu(B), (1-\delta)\mu(B)\right\} \\
&\qquad = \max\left\{(1-\delta\delta_1)\mu(B), (1-\delta)\mu(B)\right\} \\
&\qquad = (1-\delta\delta_1)\mu(B)
\end{aligned}$$

and the proof then continues as written.