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Correction to 'On the classification of some two-dimensional Markov shifts with group structure' (Ergod. Th. & Dynam. Sys. 12 (1992), 823–833)

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In my paper 'On the classification of some two-dimensional Markov shifts with group structure' the proof of Lemma 4.5 is incorrect, since for the idea of the proof to work the inequality (4.7) must hold *uniformly* for sufficiently large n. The lemma becomes correct if we assume this uniformity by reformulating the lemma as follows.

LEMMA 4.5. *Let the sets* $A_j (0 \leq j \leq p^{s_1-1})$, $B \in B_{G_2}$ *satisfy*

$$\limsup_{n\to\infty} \mu_{G_2}\left(\tau_{G_2}^{-p^l} B \cap \left(\bigcap_{k=0}^{p^{s_2-1}} \sigma_{G_2}^{-kp^{n-s_2+1}} A_{kp^{s_1-s_2}}\right)\right) > 0. \tag{4.7}$$

Then they satisfy

$$\limsup_{n\to\infty} \mu_{G_2}\left(\tau_{G_2}^{-p^l} B \cap \left(\bigcap_{j=0}^{p^{s_1-1}} \sigma_{G_2}^{-jp^{n-s_1+1}} A_j\right)\right) > 0. \tag{4.8}$$

A correct proof of the modified version of the lemma is obtained by a straightforward alteration of the (incorrect) proof in the text.

Now Lemma 4.4, though correct, must also be changed correspondingly to match the modified Lemma 4.5. It must read as follows.

LEMMA 4.4. *There exist sets* $A_j (0 \leq j \leq p^{s_1-1})$, $B \in B_{G_1}$ *such that*

$$\limsup_{n\to\infty} \mu_{G_1}\left(\tau_{G_1}^{-p^l} B \cap \left(\bigcap_{k=0}^{p^{s_2-l}} \sigma_{G_1}^{-kp^{n-s_2+1}} A_{kp^{s_1-s_2}}\right)\right) > 0, \tag{4.3}$$

but

$$\limsup_{n\to\infty} \mu_{G_1}\left(\tau_{G_1}^{-p^l} B \cap \left(\bigcap_{j=0}^{p^{s_1-1}} \sigma_{G_1}^{-jp^{n-s_1+1}} A_j\right)\right) = 0. \tag{4.4}$$

The proof of Lemma 4.4 actually remains the same. Theorem 1.1 follows from the modified Lemmas 4.4 and 4.5.