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Errata to 'A proof of Pesin's formula'

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In the paper 'A proof of Pesin's formula' (R. Mañé, *Ergod. Th. & Dynam. Sys.* (1981), **1**, 95–102) there are some minor but misleading mistakes. The following corrections are necessary:
(1) On page 99, inequality (11) states:

$$\|(D_x g^n)/E^0(x)\| \le \beta.$$

It should read:

$$\|(D_x g^n)/E^0(x)\| \le \beta^n.$$

The first inequality is obviously false in general. The second one is an immediate corollary of Oseledec's theorem. This misprint is of no consequence because in the rest of the paper we always used the correct inequality.

(2) In the statement of lemma 3, the phrase:

'Given $\lambda > \beta > 1$, $\alpha > 0$ and $c > 0$, there exists $\delta > 0$ with the following property.'

must be replaced by:

'Given $\lambda > \beta > 1$, $\alpha > 0$ and $c > 0$, then for every $\delta > 0$ satisfying:

$$0 < \delta < \frac{\lambda}{\alpha(1+c)} \tag{$*$}$$

$$0 < \delta < (\lambda - \beta) \cdot \frac{c}{\alpha(1+c)^2} \tag{$**$}$$

the following property holds.' The only change here is to make explicit the smallness of $\delta > 0$, because that will be important later. The inequalities imposed on δ are precisely those required in the proof of lemma 3.

(3) In the proof of lemma 4, take $\delta > 0$ satisfying $(*)$ and $(**)$ where α is set as in the beginning of the proof, $c > 0$ is given by the statement of lemma 4 and $\lambda > \beta > 1$ are the constants in inequalities (10) and (11). Then the rest of the proof is correct, keeping in mind that if $\delta > 0$ satisfies $(*)$ and $(**)$, then it also satisfies $(*)$ and $(**)$ with λ and β replaced by λ^n and β^n, for any $n \ge 1$. In the paper we just took $\delta > 0$ given by lemma 3 as a function of

$$\lambda > \beta > 1, \ \alpha > 0 \text{ and } c > 0,$$

but in the proof of lemma 4 we used implicitly that the same $\delta > 0$ works for

$$\lambda^n > \beta^n > 1, \alpha > 0 \text{ and } c > 0.$$

This is formally incorrect, but in fact, as shown by the improved version of lemma 3 introduced in (2), taking powers of λ and β makes the restrictions on δ become looser.