



ELSEVIER

be conservative, or even volume-

classes of maps

$$(AA) \quad (\mathfrak{H}_1^{-1} \cdots \mathfrak{H}_m^{-1})^f (\mathfrak{H}_m \cdots \mathfrak{H}_1)^f$$

$$(EA) \quad (\mathfrak{H}_1^{-1} \cdots \mathfrak{H}_m^{-1}) e_{m+1} (\mathfrak{H}_m \cdots \mathfrak{H}_1)^f$$

$$(EE) \quad ({}^f \mathfrak{H}_1^{-1} \cdots {}^f \mathfrak{H}_m^{-1}) e_{m+1} (\mathfrak{H}_m \cdots \mathfrak{H}_1^f) e_0$$

where  $\mathfrak{H}_i$  represents a Hénon transformation in the form (2) a

**Theorem 2** (cf. [9, Corollary 2.3] or [15, Theorem 4.4]). *Two reduced words  $g_m \cdots g_1$  and  $g \cdots g_1$  represent the same polynomial automorphism  $g$  if and only if  $\ell = m$  and there exist maps  $s_i \in \mathcal{S}_1$ ,  $i = 0, \dots, m$  such that  $s_0 = s_m = \text{id}$  and  $g_i = s_i g_i s_{i-1}^{-1}$ .*

From this theorem it follows that



To prove the second part of the proposition, consider first a linear, nonelementary involution  $\mathcal{I}(x, y)$ . In that case, taking  $s(x, y) = x(1, 0) + y(1, 0)$ , we see that  $\mathcal{I} = s \ell s^{-1}$ .

Next, we show that every affine, nonelementary involution (12) is  $\mathfrak{g}$ -conjugate to its linear part  $\mathcal{I}$ . We know that  $(\xi, \eta) = (\mathcal{I} - \text{id})(c, 0)$  for some scalar  $c$ . Taking  $s(x, y) = (x + c, y)$  it follows that  $s \mathcal{I} s^{-1} = \mathcal{I}$  and the proof is complete.  $\square$

### 3.2. Normal forms

We intend to d

*A. Gómez, J.D. Me*

**Proof.** Consider  $g$  given by the reduced word (14





and Milnor for the nonreversible case) because the number of parameters is considerably smaller. For example, it is easy to see that the number of symmetric