

Replace the last paragraph of Appendix A by

**Symplectic group  $\mathrm{Sp}(2m)$**

Let  $\mathbb{H}$  be the space of real quaternions. Consider the hermitian form on  $\mathbb{H}^m$

$$(x, y) = \sum_{i=1}^m \bar{x}_i y_i . \tag{A-7}$$

The *compact* unitary symplectic group  $\mathrm{Sp}(2m)$  is defined as the invariance group of that form, and is thus the group of  $m \times m$  real quaternionic matrices  $Q$  such that

$$\bar{Q}^T Q = I \quad \text{or} \quad Q^R Q = I . \tag{A-8}$$

These matrices may be called unitary real quaternionic matrices. The Lie algebra of  $\mathrm{Sp}(2m)$  is generated by real quaternionic matrices  $A$  satisfying the infinitesimal version of (A-8),

$$\bar{A}^T + A = 0 \quad \text{or} \quad A^R = A^\dagger = -A , \tag{A-9}$$

hence by *antiselfdual real quaternionic* matrices.