Correction to

The geometry and structure of isotropy irreducible homogeneous spaces

by

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(Acta Math. 120 (1968), 59–148)

Professors McKenzie Wang and Wolfgang Ziller pointed out to me that Theorem 4.1 omits the spaces $\mathbf{Sp}(n)/\mathbf{Sp}(1)\times\mathbf{SO}(n)$ and $\mathbf{SO}(4n)/\mathbf{Sp}(1)\times\mathbf{Sp}(n)$, which are isotropy irreducible for $n>1$. The gap in the proof is in the argument of Case 2 on page 69, where it is assumed that the representation η_1 is nontrivial, which is the case only for $p_1>1$. Since $\mathbf{Sp}(2)/\mathbf{Sp}(1)\times\mathbf{SO}(2)=\mathbf{Sp}(2)/\mathbf{U}(2)$, which is hermitian symmetric, the correct statement is:

4.1. THEOREM. *The only simply connected nonsymmetric coset spaces G/K of compact connected Lie groups, where* (a) *G acts effectively,* (b) *G is a classical group,* (c) $\operatorname{rank}(G)>\operatorname{rank}(K)$, (d) *$K$ is not simple, and* (e) *K acts $\mathbf{R}$-irreducibly on the tangent space, are the following:*

(1) $\mathbf{SU}(pq)/\mathbf{SU}(p)\times\mathbf{SU}(q)$, $p>1$, $q>1$, $pq>4$. *Here $G=\mathbf{SU}(pq)/\mathbf{Z}_m$ where $m=\operatorname{lcm}(p,q)$, $K=\{\mathbf{SU}(p)/\mathbf{Z}_p\}\times\{\mathbf{SU}(q)/\mathbf{Z}_q\}$, and the isotropy representation is the tensor product of the adjoint representations of* $\mathbf{SU}(p)$ *and* $\mathbf{SU}(q)$.

(2) $\mathbf{Sp}(n)/\mathbf{Sp}(1)\times\mathbf{SO}(n)$, $n>2$. *Here $G=\mathbf{Sp}(n)/\mathbf{Z}_2$. If n is even then $K=\{\mathbf{Sp}(1)/\mathbf{Z}_2\}\times\{\mathbf{SO}(n)/\mathbf{Z}_2\}$ and the isotropy representation is given by*

$$\overset{2}{\circ}\otimes(\overset{2}{\circ}\otimes\overset{2}{\circ})\quad \textit{if } n=4,$$

by

$$\overset{2}{\circ}\otimes\overset{2}{\circ}-\circ-\cdots-\circ\!<\!\begin{smallmatrix}\circ\\ \circ\end{smallmatrix}\quad \textit{if } n>4.$$

9† – 848288 *Acta Mathematica* 152. Imprimé le 17 Avril 1984