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The Weyl group as fixed point set of smooth involutions

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Abstract. We show that the Weyl group $W = M'/M$ of a noncompact semisimple Lie group is obtained by taking fixed point sets of smooth involutions in K/M. More precisely, one considers first the fixed point set X of the involutions defined on K/M by the elements of order 2 in $\exp i\mathfrak{a}$. The Weyl group is either X, or the fixed point set of the involutions defined on X by special elements of order 4 in $\exp i\mathfrak{a}$.

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