

the last equality is

Spheres

putation of homotopy
 on of topologists.
 s problem and that
 could be reduced to a
 ally been obtained in
 have not been realized.
 point of view the sphere
 cated object. On the
 motopy groups of spheres
 ferential topology.
 of these results:
 er in 3. For more
 [7].

only infinite groups
 groups is isomorphic
 group $\text{Stab}(2m(p-1)-1)$
 p^2 , while the order
 by p if

ve been computed are
 h $k \leq 37$. The groups
 ed in Table 1.

me of the Hopf maps
 generators of the

) = $12 \text{su}(\text{pr}_*(\text{sph}_7))$,
) = $120 \text{su}(\text{pr}_*(\text{sph}_{15}))$,

ription of

n \ k	1	2	3	4	5	6	7
2	\mathbb{Z}	\mathbb{Z}_2	\mathbb{Z}_2	\mathbb{Z}_{12}	\mathbb{Z}_2	\mathbb{Z}_2	\mathbb{Z}_3
3	\mathbb{Z}_2	\mathbb{Z}_2	\mathbb{Z}_{12}	\mathbb{Z}_2	\mathbb{Z}_2	\mathbb{Z}_3	\mathbb{Z}_{15}
4		\mathbb{Z}_2	$\mathbb{Z} \oplus \mathbb{Z}_{12}$	$\mathbb{Z}_2 \oplus \mathbb{Z}_2$	$\mathbb{Z}_2 \oplus \mathbb{Z}_2$	$\mathbb{Z}_2 \oplus \mathbb{Z}_{24}$	\mathbb{Z}_{15}
5			\mathbb{Z}_{24}	\mathbb{Z}_2	\mathbb{Z}_2	\mathbb{Z}_2	\mathbb{Z}_{30}
6				0	\mathbb{Z}	\mathbb{Z}_2	\mathbb{Z}_{60}
7					0	\mathbb{Z}_2	\mathbb{Z}_{120}
8						\mathbb{Z}_2	$\mathbb{Z} \oplus \mathbb{Z}_{120}$
9							\mathbb{Z}_{240}

Table 1

Groups	Generators
$\text{Stab}(1) = \pi_4(S^3) [\cong \mathbb{Z}_2]$	$\text{su}(\text{pr}_*(\text{sph}_3))$
$\text{Stab}(2) = \pi_6(S^4) [\cong \mathbb{Z}_2]$	$\text{su}^2(\text{pr}_*(\text{sph}_3)) \circ \text{su}^3(\text{pr}_*(\text{sph}_3))$
$\text{Stab}(3) = \pi_8(S^5) [\cong \mathbb{Z}_{24}]$	$\text{su}(\text{pr}_*(\text{sph}_7))$
$\text{Stab}(4) = \pi_{10}(S^6) [=0]$	-
$\text{Stab}(5) = \pi_{12}(S^7) [=0]$	-
$\text{Stab}(6) = \pi_{14}(S^8) [\cong \mathbb{Z}_2]$	$\text{su}^4(\text{pr}_*(\text{sph}_7)) \circ \text{su}^7(\text{pr}_*(\text{sph}_7))$
$\text{Stab}(7) = \pi_{16}(S^9) [\cong \mathbb{Z}_{240}]$	$\text{su}(\text{pr}_*(\text{sph}_{15}))$

Table 2

k	Stab(k)	k	Stab(k)
8	$\mathbb{Z}_2 \oplus \mathbb{Z}_2$	12	0
9	$\mathbb{Z}_2 \oplus \mathbb{Z}_2 \oplus \mathbb{Z}_2$	13	\mathbb{Z}_3
10	\mathbb{Z}_2	14	$\mathbb{Z}_6 \oplus \mathbb{Z}_2$
11	\mathbb{Z}_{504}	15	$\mathbb{Z}_{480} \oplus \mathbb{Z}_2$

Table 3