

# Cellular approximations of classifying spaces of compact Lie groups

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Let  $A$  be the classifying space of an abelian  $p$ -torsion group. We compute  $A$ -cellular approximations (in the sense of Chachólski and Farjoun) of classifying spaces of  $p$ -local compact groups, with special emphasis in the cases which arise from honest compact Lie groups. Let  $G$  be a compact 1-connected simple Lie group,  $p$  be a prime such that  $p$  divides the order of the Weyl group. Then for all  $m \geq 1$ , the  $B\mathbb{Z}/p^m$ -cellularization of  $BG_p^\wedge$  is equivalent to the homotopy fibre of the rationalization, unless  $G = S^3$  and  $p^m = 2$ . In this case the  $B\mathbb{Z}/2$ -cellularization of  $(BS^3)_2^\wedge$  is just  $B\mathbb{Z}/2$ .