The Atiyah conjecture for virtually compact special groups

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Abstract. If Y is a manifold with a cocompact proper G-action, Atiyah asked about possible values for the L^2-Betti numbers of Y. In particular, he asked whether they were always rational, or even integers if G is torsion free. If H satisfies the Atiyah conjecture, and G is a finite group extension of H, we will give conditions on H for the conjecture to lift to G. We will also show that compact special groups, as introduced by Haglund and Wise, satisfy these conditions.