Homology of Lie algebra of supersymmetries and of super Poincare Lie algebra\textsuperscript{1} RENJUN XU, Department of Physics, University of California, Davis, ALBERT SCHWARZ, Department of Mathematics, University of California, Davis, MICHAEL MOVSHIEV, Department of Mathematics, Stony Brook University — We study the homology and cohomology groups of super Lie algebras of supersymmetries and of super Poincare Lie algebras in various dimensions. We give complete answers for (non-extended) supersymmetry in all dimensions $\leq 11$. For dimensions $D = 10, 11$ we describe also the cohomology of reduction of supersymmetry Lie algebra to lower dimensions. Our methods can be applied to extended supersymmetry Lie algebras.

\textsuperscript{1}The work was partially supported by NSF grant DMS-0805989

Renjun Xu
Department of Physics, University of California, Davis