

Characterization of queer super crystals

Anne Schilling, University of California, Davis

Lie superalgebras arose in physics in theories that unify bosons and fermions. They are essential in modern string theories and appear in other areas of mathematics, such as the projective representations of the symmetric group. Of particular interest is the queer super Lie algebra, for which a theory of highest weight crystals was recently developed by Grantcharov et al. We discuss a new characterization of these crystals and how these discoveries were guided by experimentation with Sage. The aim is to get the implementations of these crystals into Sage at the workshop.