

1073-17-196

Peter Tingley* (ptingley@math.mit.edu) and **Anne Schilling**. *Demazure crystals, Kirillov-Reshetikhin crystals, and the energy function.*

I will discuss a paper with Anne Schilling which surveys and expands upon some relationships between Demazure crystals of non-exceptional affine Kac-Moody algebras and Kirillov-Reshetikhin (KR) crystals. In particular, certain Demazure crystals are isomorphic as classical crystals to tensor products of KR crystals, and we show that this isomorphism intertwines the natural affine grading on the Demazure crystals with a combinatorially defined energy function. This leads to a formula for the Demazure character in terms of the energy function, and has applications to symmetric function theory since certain specializations of Macdonald polynomials are equal to specializations of Demazure characters. I will not assume much familiarity with crystals, but when I get to applications I will assume the audience is familiar with Macdonald polynomials. (Received August 01, 2011)