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Kohnert's rule for flagged Schur modules.

Flagged Schur modules generalize the irreducible representations of the general linear group under the action of the Borel subalgebra. Their characters include many important generalizations of Schur polynomials, such as Demazure characters, flagged skew Schur polynomials, and Schubert polynomials. We use Demazure crystals to prove the characters of flagged Schur modules can be computed using a simple combinatorial algorithm due to Kohnert if and only if the indexing diagram is northwest. This gives a new proof that characters of flagged Schur modules are nonnegative sums of Demazure characters and gives a representation theoretic interpretation for Kohnert polynomials. (Received February 15, 2021)