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**Jonah Blasiak\*** (jblasiak@gmail.com), **Mark Haiman**, **Jennifer Morse**, **Anna Pun** and **George Seelinger**. *A raising operator formula for Macdonald polynomials*. Preliminary report.

Hall-Littlewood polynomials are classically defined in terms of raising operators. The importance of this perspective is apparent in Macdonald's exposition where it is the starting point for the entire theory. We give an explicit raising operator formula for the modified Macdonald polynomials  $\tilde{H}_\mu(X; q, t)$ , which naturally extends one for Hall-Littlewood polynomials. Our method just as easily yields a formula for what we call  $s$ -Macdonald polynomials  $\tilde{H}_\mu^{(s)}(X; q, t)$ , a generalization of Macdonald polynomials depending on a positive integer  $s$  and whose  $q = t = 1$  specialization is an elementary symmetric function indexed by a rectangle. We conjecture that the  $s$ -Macdonald polynomials are Schur positive. (Received January 25, 2022)