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Olivier Bernardi* (bernardi@brandeis.edu) and **Philippe Nadeau**
(nadeau@math.univ-lyon1.fr). *Negative evaluations of the chromatic polynomial and its derivatives.*

The chromatic polynomial χ_G of a graph G evaluated at positive integer q gives the number of proper colorings of G in q colors. We give an interpretation of the value of the derivatives of χ_G at non-positive integers in terms of acyclic orientations of G . Our result generalize formulas obtained by Stanley, Gessel and Sagan, Gessel and Lass. The proof is an application of heap theory in the spirit of [Gessel 2001].

This is joint work with Philippe Nadeau. (Received September 24, 2018)