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Cynthia L. Curtis* (ccurtis@tcnj.edu), Department of Mathematics and Statistics, The College of New Jersey, Ewing, NJ 08628. *Weights of essential surfaces*. Preliminary report.

The boundary slopes of essential surfaces in knot complements play an important role in understanding character varieties of knots and of the 3-manifolds arising from Dehn surgeries on the knots. An algorithm of Hatcher and Oertel tells us how to find the set of boundary slopes for any Montesinos knot. However these slopes contribute unequally to modern invariants arising from character varieties including A-polynomials, Culler-Gordon-Luecke-Shalen semi-norms, and $SL(2, \mathbb{C})$ -Casson invariants. We discuss this phenomenon and introduce recent work with Kate O'Connor towards the computation of the weights of boundary slopes. (Received August 05, 2019)