

1077-49-1976 **Julia Eaton*** (jreaton@uw.edu), UWT, Interdisciplinary Arts and Sciences, Campus Box 358436, 1900 Commerce Street, Tacoma, WA 98402-3100, and **James V Burke**. *On the subdifferential regularity of functions of roots of polynomials.*

In 2001, Burke and Overton showed that the abscissa mapping on polynomials is subdifferentially regular on the monic polynomials of degree n . We extend this result to the class of max polynomial root functions which includes both the polynomial abscissa and the polynomial radius mappings. The approach to the computation of the subgradient simplifies that given by Burke and Overton and provides new insight into the variational properties of these functions. (Received September 21, 2011)