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On the subdifferential regularity of max root functions for polynomials

In 2001, Burke and Overton showed that the abscissa mapping on polynomials is subdifferentially regular on the monic polynomials of degree n. In this talk I will discuss an extension of this result to the class of max polynomial root functions which includes both the polynomial abscissa and radius mappings. The approach to the computation of subgradient is somewhat simpler than that given by Burke and Overton and provides new insight into the variational properties of these functions.

This is joint work with Julia Eaton, University of Puget Sound.