A Bernstein Inequality for Askey-Wilson Operator

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Askey-Wilson operator on the interval $[-1, 1]$ is a discrete form of derivative that has a lot of applications in the study of q-series. Since the definition of the Askey-Wilson operator requires the evaluation of the function outside the interval, Ismail recommended to view the operator as densely defined on polynomials and then to extend it to a proper space using infinite series of polynomials. In this talk, we establish a Bernstein inequality for the Askey-Wilson operator and discuss its interaction with approximating series.