1122-47-357 **Michael Hartz*** (mphartz@uwaterloo.ca). *von Neumann's inequality for commuting weighted shifts.*

von Neumann's inequality asserts that if T is a contraction on a Hilbert space and p is a polynomial, then

$$||p(T)|| \leq \sup\{|p(z)| : |z| \leq 1\}.$$

While Andô's dilation theorem implies an analogous inequality for pairs of commuting contractions, the corresponding statement for triples of commuting contractions is false. The first counterexamples were found by Kaijser-Varopoulos and Crabb-Davie in the early seventies, but this phenomenon is still not well understood.

I will talk about a result which shows that von Neumann's inequality holds for a particularly tractable class of commuting contractions, namely multivariable weighted shifts. This provides a positive answer to a question of Lubin and Shields from 1974. (Received August 16, 2016)