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**Kelly A. Bickel, Michael Hartz and John E. McCarthy\***, Dept. of Mathematics, Washington University, 1, Brookings Drive, St. Louis, MO 63130. *Multiplier algebra functional calculus.*

A completely non-unitary contraction has not only a disk algebra functional calculus (which follows from von Neumann's inequality) but also an  $H^\infty$  functional calculus. This result was extended to the unit ball by J. Eschmeier (for operators that satisfy von Neumann's inequality for the ball), and by R. Clouâtre and K. Davidson (for row contractions). We extend this result to operators on regular unitarily invariant spaces on the ball, which means spaces with a kernel  $k(z, w) = \sum_{n=0}^{\infty} a_n \langle z, w \rangle^n$  for which  $\lim_{n \rightarrow \infty} a_n / a_{n+1} = 1$ . (Received September 07, 2017)