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John T Anderson* (anderson@mathcs.holycross.edu), Dept. of Mathematics and Computer Science, College of the Holy Cross, 1 College St., Worcester, MA 01610-2395. *Peak point theorems*. Preliminary report.

It was once conjectured that if A is a uniform algebra on its maximal ideal space X , and if each point of X is a peak point for A , then $A = C(X)$. This peak point conjecture was disproved by Brian Cole in 1968. However, in the last ten years the conjecture has been established in a number of special settings. I will survey (1) some results concerning uniform algebras on smooth manifolds and (2) results when X is a rationally convex subset of the unit sphere in complex Euclidean space. (Received March 03, 2009)