William M. Higdon (whigdon@uindy.edu) Department of Mathematics & Computer Science, University of Indianapolis, IN 46227, USA, ***On The Numerical Range Of A Class Of Composition Operators on*** H^2**.**

ABSTRACT. The *numerical range* of an operator T on a Hilbert space H is the set $W(T) = \{< Tx, x >: \|x\| = 1\}$. Elementary properties of $W(T)$ include that it is convex and contains the eigenvalues and, more generally, its closure includes the spectrum of T. My work contributes towards the answer of a question posed by Professors Paul S. Bourdon and Joel H. Shapiro in their paper: "When Is Zero In The Numerical Range Of A Composition Operator?", Integral Equations and Operator Theory, 44 (2002), 410-441. The answer to the zero-inclusion question is, in general, unknown when the symbol of the composition operator is univalent, not linear fractional, and of parabolic nonautomorphism type. One characteristic of such mappings is that they have derivative equal to 1 at their boundary fixed point. A second characteristic they have, which makes the zero-inclusion question interesting and challenging, is that their induced linear model is of the plane translation case. A theorem of Professor Carl Cowen's answers the zero-inclusion question affirmatively when the symbol is in the half-plane translation case. I will discuss the zero-inclusion question for a class of composition operators in the unresolved case.