1142-47-108 **Carl C Cowen*** (`ccowen@iupui.edu`), 402 N Blackford St, Indianapolis, IN 46202. *On Spectral Properties of Composition Operators whose Symbol Has a Fixed Point in $\mathbb{D}$.* Preliminary report.

Let φ be an analytic function mapping the unit disk, $\mathbb{D}$, into itself and suppose there is a point a with $|a| < 1$ for which $\varphi(a) = a$. The first general theorem about the spectrum of a composition operator on the Hardy space $H^2(\mathbb{D})$ with such a symbol, proved by H. Kamowitz (1975), says

$$\sigma(C_\varphi) = \{\lambda : |\lambda| \leq \rho\} \cup \{\varphi'(z_0)^n : n = 1, 2, \cdots\} \cup \{1\}$$

where ρ is the essential spectral radius of C_φ.

Surprisingly, not much more is known about such operators now than what was proved in 1975. This talk will say more about Kamowitz' result, describe some of the progress that has been made over the years, including recent progress, and try to explain some of the issues in addressing this problem. In particular, we will address the problem of identifying the essential spectrum of C_φ when φ has a fixed point in $\mathbb{D}$. (Received August 31, 2018)