

1137-47-116

**Joel H Shapiro\*** (joels314@gmail.com), Fariborz Maseeh Department of, Mathematics and Statistics, Portland State University, Portland, OR 97201. *Remarks on algebras associated with composition operators.* Preliminary report.

Each bounded linear operator  $T$  on a Hilbert space gives rise to the unital algebra  $A(T)$  that it generates, and to three naturally related algebras that are closed in the weak operator topology:

- (a) The weak-operator closure  $W(T)$  of  $A(T)$ ,
- (b) The commutant  $\{T\}'$  of  $T$ , and
- (c) The “double commutant”  $\{T\}''$ .

It’s easy to see that  $W(T) \subset \{T\}'' \subset \{T\}'$ , so it’s of interest to ask, for a given operator  $T$ , if either of these set containments is an equality.

This talk will survey some recent work done by various authors on this question for  $T$  a linear-fractionally induced composition operator on the Hardy space of the unit disc, and it will explore the relationship between these results and Victor Lomonosov’s notion of *strong compactness*.

These results follow a well-known pattern: Linear-fractionally induced composition operators exhibit surprisingly diverse behavior; even the simplest such maps can give rise to surprisingly vexing questions. (Received January 30, 2018)