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**Tuesday, July 21, 2020, at 10:00 (Boston)**  
**15:00 (UK/Eire) 16:00 (C.Europe) 22:00 (China)**

**Mathematical Picture Language Seminar**  
**Zoom at: <https://harvard.zoom.us/j/779283357>**

**“Applied von Neumann algebra”**  
**Vaughan Jones, Vanderbilt University**

Abstract. We are interested in mathematical results which are stated entirely without reference to von Neumann algebras but whose proofs use von Neumann algebras in an essential way. The first stunning example is the Kaplansky result that  $ab=1$  iff  $ba=1$  in a group algebra over a field of characteristic zero. Connes' noncommutative integration theory yields other examples. We will concentrate on a new example in the theory of zero sets of Bergman spaces where we are able to calculate a certain density of orbits of Fuchsian groups.

