W*-subquotients of sequence C*-algebras

Jamie Gabe

Abstract

By the C*-sequence algebra of a C*-algebra A we mean the norm bounded sequences in A modulo those tending to zero. A classical construction shows that the C*-sequence algebra of a II_1 factor has a quotient which is itself a II_1 factor (the W*-ultrapowers). Similarly, any C*-algebra with a tracial state gives rise to a quotient in the C*-sequence algebra which is a W*-algebra. In recent years, such constructions have been used (e.g. by Matui-Sato on Toms-Winter regularity, and Schafhauser's AF embedding theorem) to lift deep results from W*-algebras to C*-algebras (through the C*-sequence algebra). I will mainly survey some of these results (and current work in progress), as well as mention how similar techniques (without traces) can be used to prove other deep results, such as Kirchberg's O_2-embedding theorem.