1035-03-1588 **Asger D Tornquist*** (`asger@math.utoronto.ca`), 40 St. George St. room 6290, Toronto, Ontario M5S 2E4, Canada. *Definable Davies' Theorem.* Preliminary report.

A result due to Davies states that CH is equivalent to every real function on the plane being representable as a sum of rectangular functions, i.e. functions of the form $g(x)h(y)$. We give a definable version of this theorem: Every real is constructible precisely when every Σ^1_2 function allows a representation as a sum of Σ^1_2 rectangles. We also discuss the possibility of a stronger converse in this Theorem. This work is joint with W. Weiss. (Received September 20, 2007)