1025-03-88 **Justin Tatch Moore*** (`justin@math.boisestate.edu`), Department of Mathematics, Boise State University, Boise, ID 83725-1555. *Measuring sequences of closed sets.* Preliminary report.

Suppose that $\langle C_\alpha : \alpha < \omega_1 \rangle$ is a sequence such that C_α is a closed subset of α for each $\alpha < \omega_1$. Is there a closed unbounded set $E \subseteq \omega_1$ such that for each limit α, either $E \cap \alpha$ is almost contained in C_α or is almost disjoint from C_α (modulo the ideal of bounded subsets of α)? If the answer is affirmative, then we say that E *measures* the sequence $\langle C_\alpha : \alpha < \omega_1 \rangle$.

The assertion that all such sequences of closed sets can be measured is a consequence of the Proper Forcing Axiom which arises in the analysis of linear orders and in pure combinatorial set theory. It is an open question, however, whether this consequence of PFA is consistent with the Continuum Hypothesis. The central difficulty lies in the fact that a sequence of closed sets can only be measured by an ω-proper forcing in trivial instances. This talk will discuss a conjecture which, if verified, would answer this question in the affirmative. Some potential applications of this conjecture will also be discussed. (Received January 16, 2007)