1113-05-261 **Csaba Biró**, **Peter Hamburger**, **H. A. Kierstead**, **Attila Pór**, **William T. Trotter*** (trotter@math.gatech.edu) and **Ruidong Wang**. *An Application of the Lovász Local Lemma to Stability Analysis of Dimension.* Preliminary report.

Let $f(c)$ denote the least integer so that if $P$ is a poset with $|P| = 2n+1$ and $\dim(P) \geq n-c$, then $P$ contains a standard example of dimension $d = n - f(c)$, provided of course that $n$ is sufficiently large. In earlier work, Biró, Hamburger, Pór and Trotter showed that $f(c)$ exists and satisfies $f(c) = O(c^2)$. From below, they used finite projective planes to show that $f(c)$ must be at least as large as $c^{4/3}$. As part of a comprehensive revisit to the subject of the dimension of random posets of height 2 first investigated by Erdős, Kierstead and Trotter more than 20 years ago, we extract an application of the celebrated Lovász Local Lemma to show that $f(c)$ must be at least $c^{3/2}$, ignoring multiplicative terms involving $\log c$. (Received August 24, 2015)