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Kyle Stephen Austin* (ksaustin88@gmail.com), Department of Mathematics, Ben Gurion University of the Negev, P.O.B. 653, 8410501 Beer Sheva, Israel. *Dimension Raising and the Higson Corona Functor.*

Takahisa Miyata and Ziga Virk introduced a version of n -to-1 maps in large scale geometry and prove various analogues of the classical dimension raising theorems. They prove the following variant of the Hurewicz dimension raising theorem for asymptotic dimension ($asdim$): If $f : X \rightarrow Y$ is coarse and coarsely n -to-1 then $asdim(Y) \leq (asdim(X) + 1)n - 1$.

Recall that the classical Hurewicz dimension raising theorem is much stronger: If $f : X \rightarrow Y$ is a closed n -to-1 map of metric spaces then $dim(Y) \leq dim(X) + (n - 1)$. It has been a matter of some debate since the aforementioned publication as to whether the estimate of Miyata and Virk can be sharpened to be the same as the classical version. This is exactly what Z. Virk and I managed to prove: If $f : X \rightarrow Y$ is coarse and coarsely n -to-1 then $asdim(Y) \leq asdim(X) + (n - 1)$. Moreover, our proof relies on the classical Hurewicz theorem via the Higson compactification.

In my talk, I plan to give a brief introduction to all the necessary prerequisite materials to understanding the result, as well as an outline of the proof. (Received January 13, 2016)