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**Joseph S. Miller\*** (jmillermath@math.wisc.edu), Madison, WI. *Revisiting Cooper's jump inversion theorem.* Preliminary report.

Cooper showed that every degree above  $\mathbf{0}'$  is the jump of a minimal degree. We give a fairly easy proof of this result, using a simple method to force the jump on partial trees. The method allows us to extend Cooper's result by showing that every  $S \geq_{tt} \emptyset'$  is actually truth-table equivalent to the jump of a minimal (Turing) degree. In particular, there is a superhigh minimal degree. The method also allows us to construct a minimal  $GL_1$  degree that is not weakly jump traceable, giving a new proof that downward  $GL_1$  does not imply weak jump traceability.

These results are joint with Steffen Lempp, Keng Meng Ng and Liang Yu. (Received September 09, 2010)