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Carl Mummert* (mummertc@marshall.edu), One John Marshall Drive, Huntington, WV 25755, and **Jeffrey L. Hirst** (jlh@math.appstate.edu). *Reverse mathematics and uniformity in proofs without excluded middle*. Preliminary report.

We establish two theorems relating provability in intuitionistic systems of higher order arithmetic with uniform provability in weak classical systems. These results show that, when certain $\forall\exists$ sentences are provable in the intuitionistic systems, their uniform variants are provable in classical systems with weak comprehension axioms. By combining these results with ordinary reverse mathematics techniques, we are able to demonstrate the nonexistence of proofs of several mathematical principles in intuitionistic systems. (Received September 05, 2009)