EVERY 1-GENERIC COMPUTES A PROPERLY 1-GENERIC

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A real is $n$-generic iff for all $\Sigma^0_n$ sets of strings $S$, there is some initial segment $\sigma$ of $A$ such that $\sigma \in S$ or $\sigma \not\subseteq \tau$ for all $\tau \in S$. A real is called properly $n$-generic if it is $n$-generic but not $n+1$-generic. We show that every 1-generic real computes a properly 1-generic real. On the other hand, if $m > n \geq 2$ then an $m$-generic real cannot compute a properly $n$-generic real.

This is joint work with Rod Downey, Noam Greenberg, Denis Hirschfeldt, and Joe Miller.