

Abstract Submitted
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**Tunneling ionization time-resolved
by backpropagation**¹ HONGCHENG NI, ULF SAALMANN, JAN M. ROST,
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PHYSIK KOMPLEXER SYSTEME TEAM — We determine the ionization time in
tunneling ionization by an elliptically polarized light pulse relative to its maximum.
This is achieved by a full quantum propagation of the electron wave function forward
in time, followed by a classical backpropagation to identify tunneling parameters,
in particular the fraction of electrons that has tunneled out. We find, that the ion-
ization time is close to zero for single active electrons in helium and in hydrogen if
the fraction of tunneled electrons is large. We expect our analysis to be essential to
quantify ionization times for correlated electron motion.

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