

Abstract Submitted  
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**Time resolved optical conductivity in interacting fermionic systems after a quantum quench**<sup>1</sup> YONAH LEMONIK, ADITI MITRA, New York University — We study dynamics following a quantum quench from an initial normal metal phase to the superconducting critical point. We identify a scaling regime where universal behavior appears in an intermediate time regime before thermalization sets in. The scaling is characterized in terms of a new critical exponent that controls the anomalous dimension of fields at short times after the quench. Motivated by experiments in pump-probe spectroscopy of correlated materials, we make predictions for how the optical conductivity evolves in time. Our results show that transient superconducting fluctuations and nonequilibrium critical exponents can be measured directly by experimental probes.

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