



Supplementary Figure S1 | Input THz pulse amplitude dependence on antenna voltage

a, Spectral amplitude of THz pulses with different antenna voltages (black 4V, red 1V, green 0.5V, blue, 0.25V, cyan 0.125V, magenta 0.06V dark yellow 0.03V) on a logarithmic vertical scale. The QCL and cryostat are removed from the experimental-set up. **b**, Spectral amplitude of the THz pulses at 2.0 THz versus antenna voltage. The spectral amplitude varies linearly with antenna voltage. **c**, Normalized electric field of THz pulses generated with different antenna voltages. **d**, Normalized spectral amplitude of THz pulses generated with different antenna voltages. The frequency content of the THz pulses does not change with the antenna voltage.