

Supplementary Materials for

Carbon-Based Ultra-Broadband Tunable Terahertz Metasurface Absorber

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Supplementary Text
Figs. S1 to S2

1 Simulation methods

Simulate the structure of metasurface absorption using the frequency domain solver of electromagnetic simulation software CST. During the simulation process, terahertz waves are incident perpendicular to the surface of the structure along the negative z-axis direction. The electric field E follows the y-axis direction, and the magnetic field H follows the x-axis direction. Set the xoy plane as a periodic boundary condition.

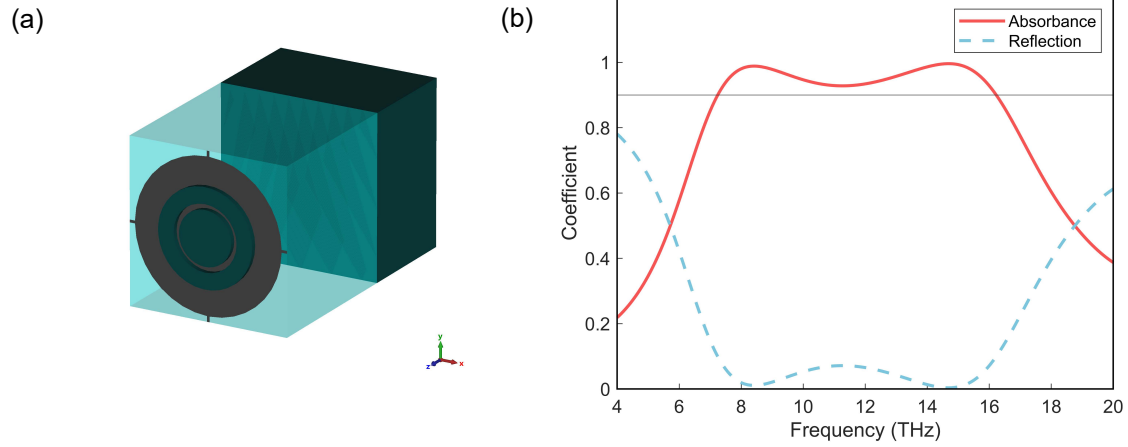


Figure S1: **Simulated structure of the absorber.** (a) Perspective view of the absorber. (b) Absorption and reflection curves of the absorber ($E_f=1$ eV)

2 Electrical circuit model

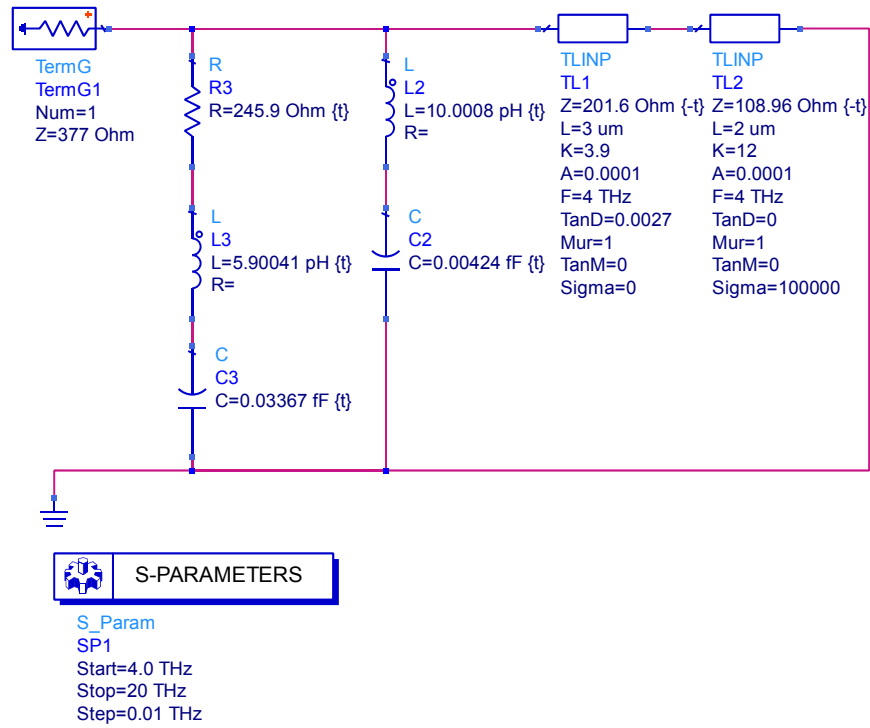


Figure S2: Equivalent circuit model and parameters.