

Supplementary Information

A reconfigurable hyperbolic metamaterial perfect absorber

Jitendra K. Behera, Kuan Liu, Meng Lian, and Tun Cao, *

*E-mail: caotun1806@dlut.edu.cn

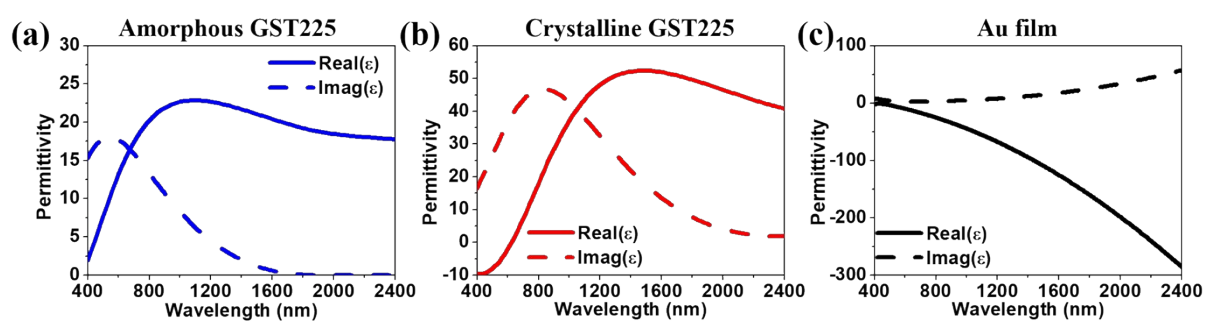


Figure S1: Experimentally measured dielectric permittivity as a function of wavelength (a) complex permittivity of amorphous GST225 (b) complex permittivity of crystalline GST225 (c) complex permittivity of Au film.

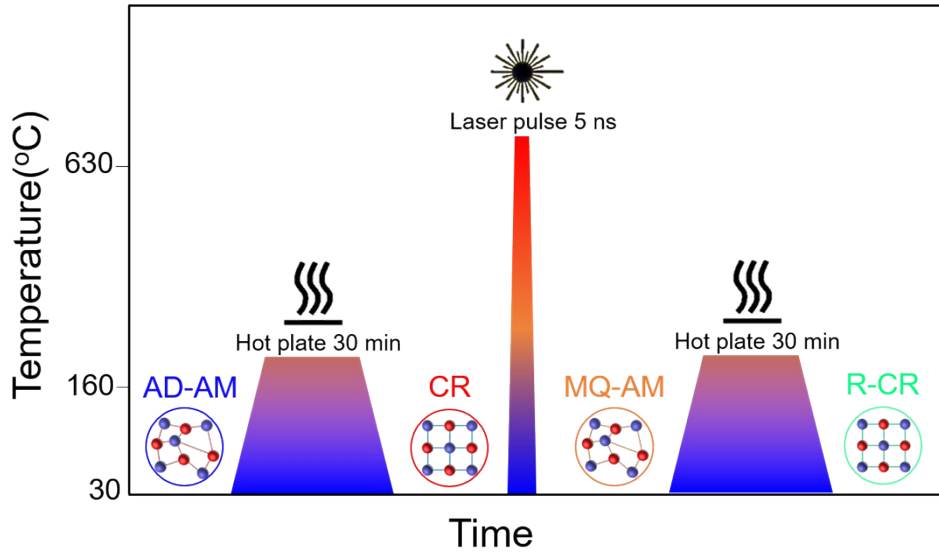


Figure S2. Schematic of the reversible phase change of the phase change HMM absorber: AD-AM GST225 is first annealed above 160 °C to change to CR-GST225 using a Linkam hot plate. A single ns laser pulse is triggered to heat the CR GST225 film above 630 °C that reamorphises the CR-GST225. Subsequent cooling provides the MQ-AM GST225. To recrystallise the MQ-AM GST225, for which a temperature above 160 °C but below 630 °C is required, the hotplate is again is employed.

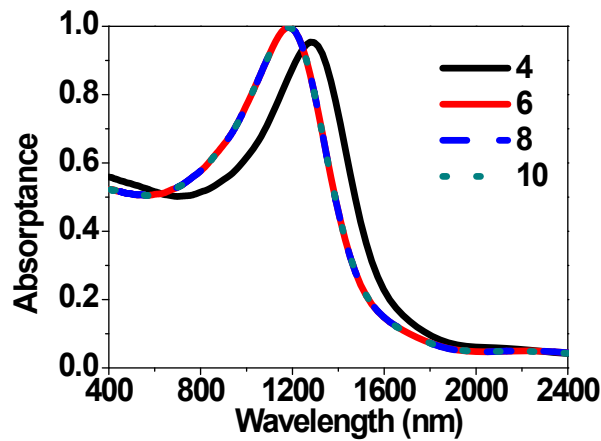


Figure S3. FDTD simulated absorbance of the HMM absorber for the amorphous state with $P = 4, 6, 8, 10$, where the absorbance spectra for $P = 6, 8, 10$ are almost overlapped.