

Electronic Supplementary Information (ESI) for

Fast modulation of surface plasmons based on photothermal effect of nonvolatile solid thin films

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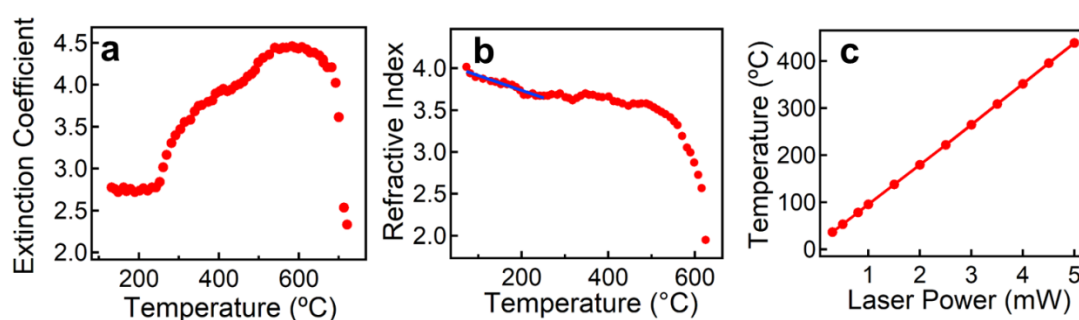


Figure S1. Temperature dependent optical constants of GST. Change of (a) Extinction and (b) RI with temperature. Data are adopted from Ref.1 at 632.8 nm. (c) Calculated surface temperature of Au NPoM with GST film at different irradiation powers. Laser wavelength: 532 nm.

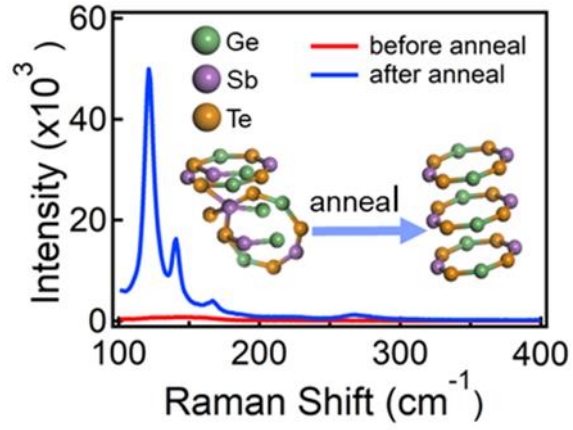


Figure S2. Raman spectra of GST films before and after annealing at 250 °C.

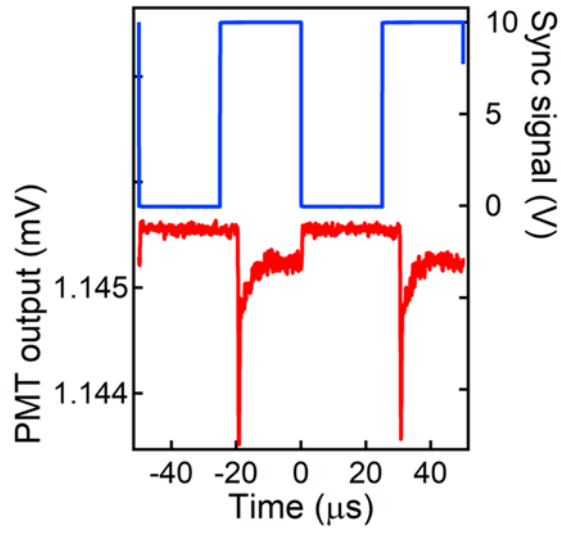


Figure S3. Laser response on a mirror reflector without any GST.

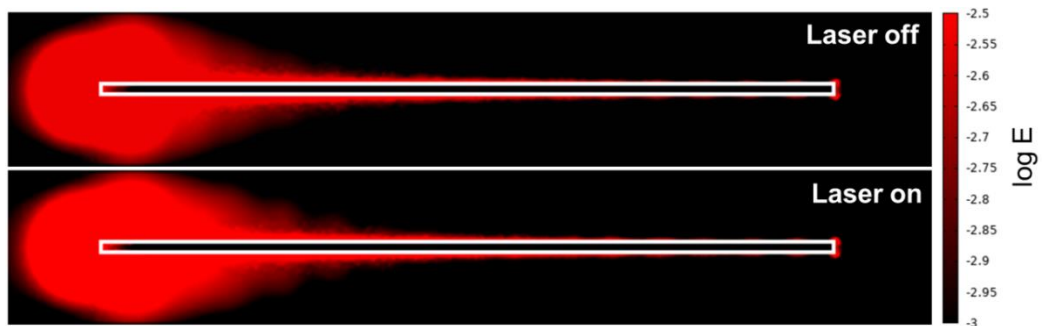


Figure S4. Near field profile of AgNW on GST/Si substrate with 532-nm laser on and off. The detailed intensity profile at the end of output is plotted in Figure 3e in the main paper.

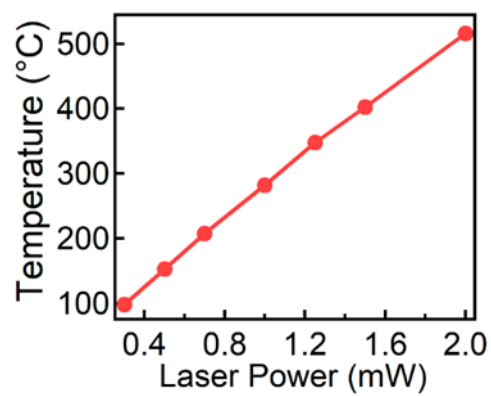


Figure S5. Calculated surface temperature of Ag NW with GST film at different irradiation powers. Laser wavelength: 532 nm.

Notes and reference

1. S. Y. Kim, S. U. Park, X. Z. Li, S. J. Kim and S. H. J. An, *Jpn. J. Appl. Phys.*, 2006, **45**, 1390-1393.