Supporting Information

High performance infrared photodetector based on GeTe film and In/Ag bimetallic electrode

Bingbing Zhang,[a] Xin Zhou,[a] Xiaolin Liu,[a] Jingyuan Wu,[a] Kaibing Xu,[b] Yi Gu,[c] Chunrui Wang,[a] and Liangcai Wu*[a,d]

[a]College of Physics, Donghua University, Shanghai 201620, China.
[b]Research Center for Analysis and Measurement, Donghua University, Shanghai, 201620, China.
[c]State Key Laboratories of Transducer Technology, Shanghai Institute of Technical Physics, Chinese Academy of Sciences, Shanghai 200083, China.
[d]National Key Laboratory of Materials for Integrated Circuits, Shanghai Institute of Micro-system and Information Technology, Chinese Academy of Sciences, Shanghai 200050, China.
*) Corresponding author: lcwu@dhu.edu.cn

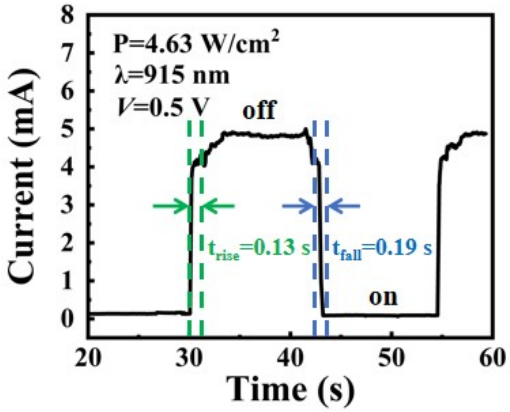

Fig S1. Time-resolved photoresponse of the GeTe-In/Ag device under a 915 nm light with an effective light power of 4.63 W/cm^2 at a voltage bias of 0.5 V.

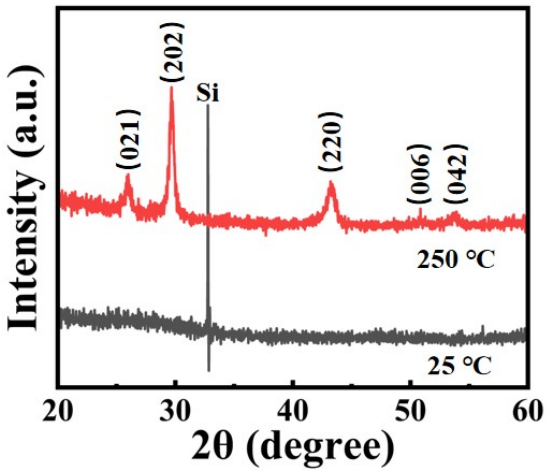

Fig S2. XRD spectra of the GeTe films before and after annealing.

We have provided the SEM cross-sectional images for both devices. In order to better distinguish the layers of the different materials, the thickness of the GeTe, Ag and In films has been doubled. In Fig. S3, the GeTe target was sputtered onto the SiO_2/Si (100) substrate by magnetron sputtering, and then the Ag electrode was prepared by magnetron sputtering and lithography to prepare GeTe-Ag devices. In Fig. S4, the Ag target, GeTe target and In target are successively sputtered on SiO_2/Si (100) substrate by magnetron sputtering technology, and then the Ag electrode was prepared by magnetron sputtering and lithography to prepare the GeTe-In/Ag device.

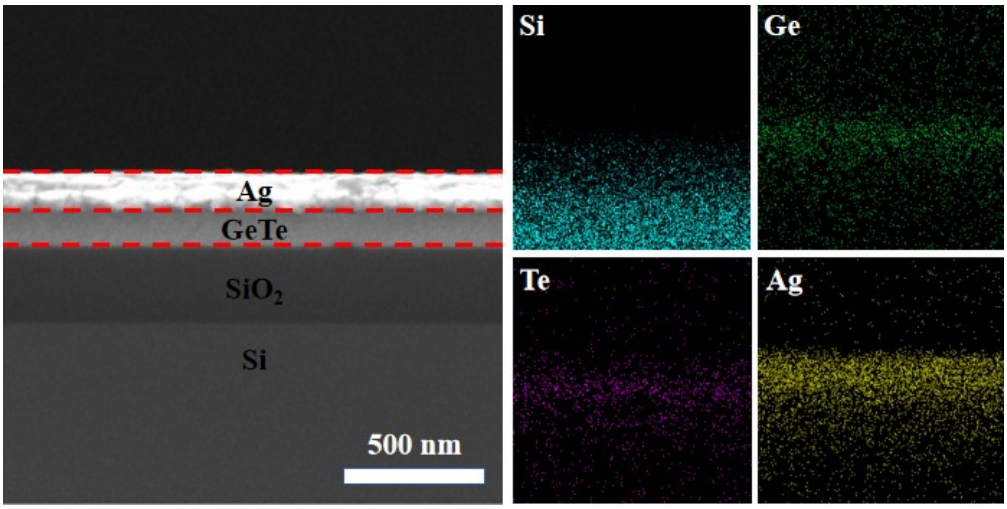

Fig S3. SEM cross-sectional and EDS mapping images of the GeTe-Ag device.

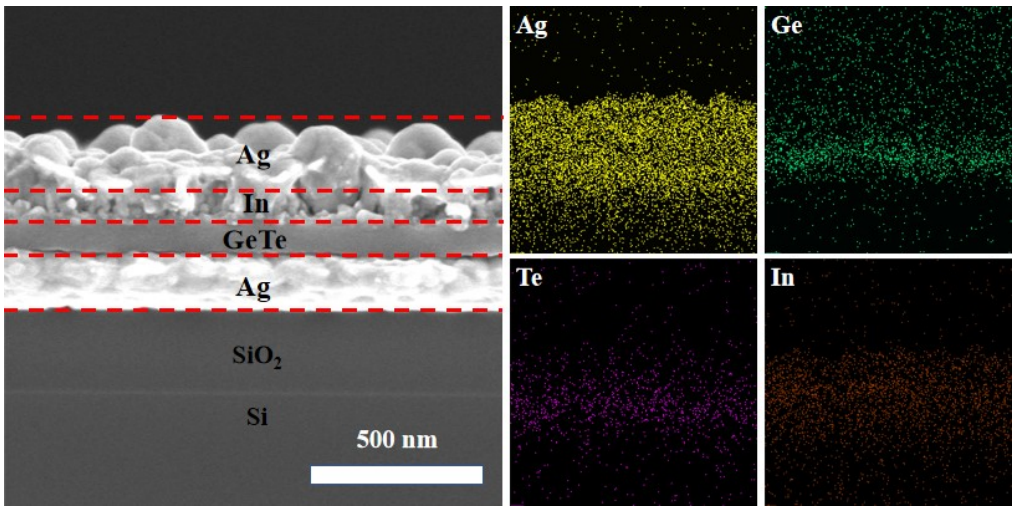

Fig S4. SEM cross-sectional and EDS mapping images of the GeTe-In/Ag device.