Ultrafast optical response and efficient wavelength conversion in epsilon-near-zero aluminum-doped zinc oxide thin film

Yuanyuan Gou (苟园园), Yuan He (何源), Tiantian Zhou (周甜甜), Yi Feng (冯艺), Lili Miao (缪丽丽), and Chujun Zhao(赵楚军)*

Key Laboratory for Micro/Nano Optoelectronic Devices of Ministry of Education & Hunan Provincial Key Laboratory of Low-Dimensional Structural Physics and Devices, School of Physics and Electronics, Hunan University, Changsha 410082, China

*Corresponding author: cjzhao@hnu.edu.cn.

1. The atomic force microscope (AFM) image of the AZO film

The thickness of the AZO film was measured to be approximately 203 nm using the AFM, as depicted in Fig. S1.

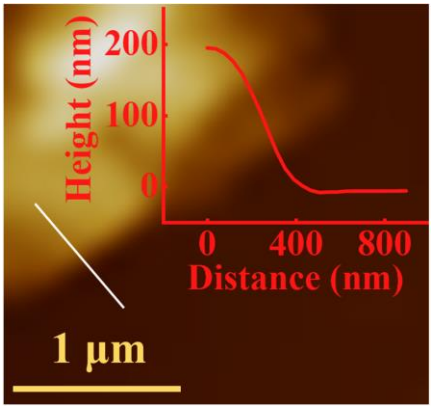

Fig. S1. The AFM image of the AZO film.