

## Performance of the USTC first batch LGADs

*Thursday, 18 February 2021 09:20 (20 minutes)*

We present the performance of the USTC-1 LGADs which are designed by the USTC and fabricated at the IME (Institute of Microelectronics, CAS). The LGADs are made with five 8-inch wafers with 1x1, 2x2, 5x5, and 15x15 arrays with 50  $\mu\text{m}$  active thickness according to the specification of the ATLAS HGTD project. Different peripheral region designs are attempted and the gain layer energy and dose are varied to optimize the radiation hardness. The ultra-deep gain layer and carbon diffusion strategy are also tried with two wafers. The I-V and C-V results show good uniformity on the VBD, VGL. The transient signal measured with beta-scope and laser is used to evaluate the timing resolution and collected charge.

**Primary authors:** YANG, Xiao (University of Science and Technology of China (CN)); LIU, Yanwen (University of Science and Technology of China (CN)); LI, Chihao (University of Science and Technology of China (CN)); GE, Jiajin (University of Science and Technology of China (CN))

**Presenter:** YANG, Xiao (University of Science and Technology of China (CN))

**Session Classification:** Session 9: LGAD 2

**Track Classification:** LGAD