Contribution ID: **50** Type: **Invited Talk**

Electrical characteristics of Cu-electrode CdTe detectors

Friday, November 8, 2024 6:55 AM (20 minutes)

Cadmium Telluride (CdTe) is one of the excellent semiconductor detector materials. However, the long-term stability of the electrode on CdTe has been relatively understudied. CdTe detectors with Cu-electrode were fabricated to analyze stabilities of the junction between the electrode and the crystal. The fabricated detectors demonstrated excellent rectifying properties after electrical aging, indicating low electrical stability. In addition, the long-term electrical characteristics were found to be unstable, as their properties change with storage. The direction of these changes was not consistent, suggesting that the chemical bond between the oxide and Cu electrode and the ratio of the two types of copper oxides could evolve. These results suggest that other metals, including conventional electrode materials, may experience changes in the electrode state over time if they are not completely free of a native oxide layer.

Type of presence

Presence online

Primary author: TAKAGI, Katsuyuki (Shizuoka University, ANSeeN Inc.)

Co-authors: Dr KOIKE, Akifumi (ANSeeN Inc.); Prof. MIMURA, Hidenori (Shizuoka University, ANSeeN Inc.); AOKI, Toru (Shizuoka University, ANSeeN Inc.); Mr TAKAGI, Toshiyuki (Shizuoka University, ANSeeN Inc.)

Presenter: TAKAGI, Katsuyuki (Shizuoka University, ANSeeN Inc.)

Session Classification: Radiation Detectors and Detector Materials