Contribution ID: **32** Type: **Oral**

KINETICS OF CHROMIUM SILICIDE LAYER GROWTH IN SILICON –CHROME BINARY PLATES

Thursday 26 June 2025 17:30 (30 minutes)

The presentation discusses the experimentally observed formation and growth of a chromium silicide layer in a silicon wafer with a deposited chromium layer. The chromium silicide layer forms and grows at the boundary between silicon and chromium. The time dependence of the layer thickness is first described by linear functions with different growth rates: rapid growth is replaced by slow growth, the dependence has a kink; and then it becomes parabolic. At the same time, a layer of its oxide appears on the outer boundary of the chromium layer with some delay, which grows parabolically with time.
The conditions and results of the experiment are analysed.
A theoretical model of the formation and growth of silicide and oxide layers is proposed, which explains this growth as a result of chemical reactions, diffusion and structural transformations.

Author: SELYSHCHEV, Pavel (University of Pretoria)

Presenter: SELYSHCHEV, Pavel (University of Pretoria)

Session Classification: Thursday