

ST-P004

Catalytic Breakdown of Graphene by Gold

이경재¹, 양미현², 임규욱², 강태희², 정석민¹

¹포항공과대학교 물리학과, ²포항가속기연구소

It was reported that oxidative etching of graphene occurs at about 450-550°C under oxygen atmosphere. We found catalytic breakdown of graphene by Au on the SiO_x surface. This catalytic process was investigated using x-ray photoelectron spectroscopy and absorption spectroscopy at 4D PES beamline in PAL. Spectroscopic results suggest that the destruction of graphene is initiated by catalytic interaction between the oxidized gold and carbons in vacancy defects of graphene.

Keywords: graphene, gold, catalytic