【PP-02】

Measurement of ion-induced secondary electron emission coefficient, work function, and discharge voltage of MgO protective layer in AC-PDP for vacuum and air annealed

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The ion-induced secondary electron emission coefficient and work function of the vacuum annealed, air annealed, and as-deposited MgO protective layers have been investigated by γ -FIB system. Also we measured secondary electron emission coefficient and work function, obtained for air-held by 24 hours of vacuum annealed, air annealed, and as-deposited MgO protective layers and compared each other. And we measured discharge voltage of vacuum annealed, air annealed, and as-deposited MgO protective layers and compared each other. Vacuum annealed and air annealed MgO protective layers have been found to have higher γ values than as-deposited MgO protective layer. The air-held by 24 hours of as-deposited MgO protective layer has been found to have lower γ values than as-deposited MgO protective layer without any air-held. The γ for air-held of air annealed and vacuum annealed MgO protective layers are similar to those for air annealed and vacuum annealed MgO protective layers without any air-held. Air annealed after air-held by 24 hours of as-deposited MgO protective layer has been found to have higher γ values than air-held by 24 hours of as-deposited MgO protective layer, but lower γ values than as-deposited MgO protective layer without any air-held. The work functions for vacuum annealed and air annealed MgO protective layers are lower values than that of as-deposited MgO protective layer. And work functions of air-held MgO protective layers for vacuum annealed and air annealed MgO protective layers are also lower values than that of air-held for as-deposited MgO protective layers. It is noted that the work function of as-deposited MgO protective layer increase after air-held. The breakdown voltage of vacuum annealed MgO protective layer is shown to be lower than as-deposited MgO protective layer over entire pressure ranges in this experiment.