

Transient superhydrophilic surface modification of polyimide by metal ion beam irradiation

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Polyimide is commonly used as a substrate for flexible electronic devices because of its excellent thermal, physical, and electrical properties. To enhance the adhesion between substrates and electrodes, it is necessary to improve the hydrophilic properties of the polyimide. Various surface treatments such as plasma treatment, laser ablation, and ultraviolet treatments, have been applied for this purpose. In this study, we demonstrated that Cu and Ti ion beam irradiation can temporarily create a superhydrophilic surface on polyimide after irradiation. When Cu or Ti ions bombarded the polyimide, the contact angle changed systematically with the beam current density and over time. We present AFM data for polyimide irradiated with Cu and Ti ions at different beam current densities and discuss the possible mechanisms behind the changes in the contact angle.

Contribution track

KOPUA

Paper submission Plan

Best Presentation

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