

Charge relaxation between polymer and metal surface during separation process after contact

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Abstract— Contact and separation process was precisely controlled by piezo drive, and the surface potential on a polymer film was measured against a metal plate. A couple of sharp potential drops were absorbed in the separation process and it was not the case in the contact, or re-approach; thus the drops can be associated charge relaxation due to gas discharge between the surfaces. The amounts of the charge relaxation at single relaxation events were estimated from the data. The amount distributed relatively widely, and the possibility followed Weibull distribution, for 'normal relaxation', and there were some 'excess' relaxations out of the distribution.