

Abstract Submitted  
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**Investigation on dynamics of colloidal particles with optically-controlled electrode patterns**<sup>1</sup> KWAN HYOUNG KANG, HYUNJIN PARK, HORIM LEE, JIWOON HONG, Pohang Univ. Sci. and Tech. — We investigated the dynamics of colloidal particles under ac electric fields. We used an optoelectronic substrate in which the conductivity of substrate can be changed optically. The shape of electrode pattern thus can be changed freely by controlling the optical pattern which is produced by a conventional projector. Interaction between particles showed a various patterns depending on applied electrical frequency, and rich dynamic characters are captured by dynamically changing the electrode pattern. Particle behaviors are in general governed by the balance between the dielectrophoresis and induced charge electroosmosis.

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