

Capacitive tactile sensors using a single ion gel layer

박병준, 장석태[†]

중앙대학교

(stchang@cau.ac.kr[†])

Capacitive sensors have been studied for various purposes such as detecting touch, pressure, and physical motions. Especially, positioning of touch point need to array numerous electrode patterns. Here, we demonstrated simply configured capacitive sensors with a single ion gel lyer and copper electrodes without electrode arrays. The working principal of our capacitive tactile sensors was investigated with a calculation of electric field in the gel layer and variations of elecric double layer (EDL) capacitance. In addition, the sensing performance depending on static pressure, lateral movement of pressure, and toch area was investigated. Our capacitive tactile sensor based on a ion gel can give an opportunity of developing future electronic device such as wearable electronics, soft robotics, electronic skins, and human-machine interaction system.