The Study of Self-Adjustable Pressure Control for a Wiper System

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ABSTRACT

The sweeping performance of wiper can affect driver ’ s sight. The normal pressure in a rubber-glass contact may affect active efficiency for wiper system. The more contact pressure increases, the more friction force enlarges. But, the more larger friction force can cause the chatter phenomenon for wiper blades. When the normal pressure is not enough, it will be producted water-membrane. Therefore, that is important that the normal pressure between the wiper and glass is studied. Finally, the adjustable pressure mechanism for windshield wiper is designed and investigated in this paper. Therefore, The proposed back and forth experimental platform in this study is simulated to practical wiper system in an automobile. The wiper speed is measured by tachometer. Control pressure by step motor. The rainfall and contact pressure level are measured by rain sensor and force sensor. The fuzzy controller is used to control the wiper blade pressure.

Keywords : Wiper ; Fuzzy logic controller ; Rain sensor ; Force sensor

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