

## **A capacitive touch panel output trajectory estimation by particle filter**

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**Abstract:** A particle filter study is introduced in algorithm, simulation and system implementation on the capacitive touch panel (CTP) trajectory estimation application. The open source Python computer language is utilized in filter implementation and evaluation in both microprocessor and PC sides. The study result smooths out the injected Non-Gaussian noise with the low root-mean-square-deviation (RMSD) values. The additional algorithms of extended Kalman filter (EKF) and moving average filter (MAF) are included for comparison purpose.

**Keywords:** capacitive touch panel (CTP), particle filter, Python