

## **KALMAN FILTER BASED TIME OF ARRIVAL WIFI INDOOR POSITIONING**

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### **Abstract**

We have discussed about the challenges we face in determining the location of device in indoor environment. The main goal of this paper is to describe the complete positioning process of WiFi based Time of Arrival indoor positioning system. We have measured the time difference between sending a packet and receiving the acknowledgement. An accurate estimation of signal arrival time is considered essential in many applications, such as in time-based wireless and indoor location systems. In this paper, we propose a time of arrival (TOA) estimation algorithm for the WiFi systems, which is based on Kalman filtering.

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**Keywords :** WiFi, Indoor location, 802.11

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