Flying Ubiquitous Sensor Networks as a Queueing System

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***Abstract*—The Flying Ubiquitous Sensor Networks (FUSN) includes two segments: ground and flying. The ground segment is the traditional ubiquitous sensor network (USN) with field or mobile sensor nodes. The flying segment represents the one or more small Unmanned Aerial vehicles (sUAV) which are equipped with sensor nodes as well. The sUAV can collect data from ground sensor fields. Furthermore, the sUAV can be a temporary cluster head for ground sensor nodes during this collecting.**

The sUAV is considered as the queuing system in the paper. Two general models are analyzed. There are the ground segments of sensor nodes with known coordinates on the first model. The sensor nodes with unknown coordinates are on the second model. The schedule collection procedure is proposed for the first model. The distribution function for requests number from sensor nodes is defined for the second model.

***Keyword*— Flying Ubiquitous Sensor Network, small Unmanned Aerial Vehicle, queuing system, distribution function**

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