IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
Volume 2, Issue 1, July 2022
Impact Factor 6.252

Air Pollution Monitoring in Remote Areas using Smart UAV based System

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Abstract: *Real time monitoring of air pollution and measurement of pollutant gases is very challenging task and needs more numbers of sensors and lots of observation. In this paper, Unmanned Aerial Vehicle (UAV) based system equipped with different micro sensor, is introduced for monitoring of air quality. It will offer a new approach in environmental pollution assessment instead of ground based monitoring system. Air pollution concentration data is collected by different sensors present in UAV, are effectively monitored in personal computer or mobile devices. The main objective of this paper is to elaborate the performance capability of UAV for effective monitoring of air pollution and measure health hazard air pollutants with high sensitivities in a particular area where human cannot reach. As it is quite recent field, a fruitful effort has dedicated to develop an integrated sensing system and optimization of its crucial features as dimension, weight and energy autonomy. The effectiveness of the developed system is evaluated by performing some field experiments using a hardware prototype UAV model.*

Keywords: Air Pollution measurement, Unmanned Aerial Vehicle, Smart sensing unit, Electronic Speed Controller, MCU unit

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IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
Volume 2, Issue 1, July 2022
Impact Factor 6.252

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