



Contribution ID: 210

Type: Mini Oral and Poster

Gas emission measurement system used in Chilla-Juliaca landfill

Monday 12 October 2020 16:23 (1 minute)

In many countries around the world, most of the waste use to be disposed of to landfills, this generate public concern about the health effects of emissions. Landfill gases are produced by the natural bacterial decomposition of waste and it is about half of methane, with the remainder mostly carbon dioxide and minor amounts of other gases. Real-time measurement and modelling of emissions gases in landfills is important. In this work a low cost wireless measurement system is developed using MOS gas sensors (MQ4, MQ5 and MQ9), microcontroller and XBee and HC-12 wireless communications modules. The system can be mounted on an unmanned aircraft (UAV, drone) or deployed as a wireless sensor network. Experiments have been carried out near a closed landfill, which show high gas concentration. According to the preliminary results, high levels of methane concentration can be seen. Keep in mind that the population is very close to the landfill, therefore it is very important to have more knowledge of the generation of methane and other gases

Minioral

Yes

IEEE Member

Yes

Are you a student?

No

Authors: CHILO, JOSE (University of Gavle); Mr MENDOZA MONTOYA , Javier (Universidad Andina Néstor Cáceres Velásquez Juliaca, Perú); Dr OLSSON , Annakarin (University of Gävle Gävle, Sweden); Dr MÁRTENSSON , Stig-Göran (University of Gävle Gävle, Sweden); Mr HUANCA ZEA , Kevin John (Universidad Andina Néstor Cáceres Velásquez Juliaca, Perú); Mr ROJAS CALLA , Ayrton Ronaldo (Universidad Andina Néstor Cáceres Velásquez Juliaca, Perú)

Presenter: CHILO, JOSE (University of Gavle)

Session Classification: Poster session A-01

Track Classification: Data Acquisition System Architectures