A preliminary study of green-house gases interference for ammonia sensing in the mid UV region

Hadi Manap^a; Elfed Lewis^b

^aElectrical & Electronic Engineering Faculty, Universiti Malaysia Pahang Pekan, Pahang. ^bElectronic & Computer Engineering Department, University of Limerick Limerick, Ireland

ABSTRACT

This paper describes a preliminary study of the possibility for greenhouse interference during ammonia measurement in the 200 nm - 230 nm region. An absorption spectrum for ammonia was compared with the greenhouse gases absorption lines to theoretically justify that there were no discernible interference effects during the ammonia concentration measurements. It was theoretically found that the primary greenhouse gases namely ozone, methane and nitrous oxide have no significant interference for ammonia sensing in the 200 nm - 210 nm region.

KEYWORDS:

Ammonia sensing; interference; spectroscopy; spectra comparison.

ACKNOWLEDGMENT

The author would like to thank the staff of Electronic and Computer Engineering Department of the University of Limerick, for their assistance and input during the research. The authors would like to acknowledge resources made available through the Higher Education Authority, PRTLI cycle 4 for Environment and Climate Change. Also the authors would like to acknowledge the support of the University of Malaysia, Pahang (UMP) and the Ministry of Higher Education, Malaysia in providing scholarship for my research studies.