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Observation of trace gases over Indian Ocean during Autumn period

T.K.MANDAL[1], ATEEF KHAN[1], Y. NAZEER AHAMEED[1], R.S.TANWAR[1], K.S.ZALPURI[1], S.L.JAIN[1], RISAL SINGH[1], M.K. TIWARI[1], PRABHAT KR. GUPTA[1], M.DILEEP KUMAR[2] and S.C.GARG[1]

[1]*National physical Laboratory, New Delhi-110012*
[2]*National Institute of oceanography, Dona Paula, Goa-403 004*

Atmospheric observations of Ozone and its precursor trace Gases such as CO, NO_x , CO_2, CH_4, N_2O; various characteristics of aerosols including aerosol optical depths, size distribution and chemical composition and radiation were carried out at the surface on board Sagar Kanya ship during the period of October-November, 2004 under the CSIR Network programme on" Impact of anthropogenic perturbations on oceanographicatmospheric processes in and around India in the context of Global change. The area covered during the ship cruise was close to the equator both in the Arabian sea side as well as in Bay of Bengal region of the Indian ocean. Earlier observations made during BOBMEX, ARMEX, and INDOEX were conducted during monsoon and winter period respectively .The main objective of this study was to have an idea about the flow of pollutants in other seasons such as autumn or early winter when the wind flow patterns are different resulting in probably different scenario about the GHGs and aerosols.

In this paper some preliminary results about the GHGs and in particular about the ozone and its precursors CO and NOx are presented. Two significant features observed during this period namely; (i) Low ozone concentration of the order of 2 ppbv around the equator region and (ii) presence of North-South latitudinal gradient of all the trace gases clearly show strong continental influence. Carbon Monoxide shows clear diurnal features during the period. A comparison of these results with the earlier observations during winter months is also carried out.