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A preliminary Analysis of green-house gases at the coastal site Lamezia Terme, in central Mediterranean area, using data of different instruments.

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In order to establish strategies for the mitigation of global warming, a quantitative understanding of the global budget of the greenhouse gases are required. Greenhouse gases, according to the IPCC (2013), are important components of climate pollutants that contribute both directly and indirectly to the Earth's radiative balance. Carbon dioxide, Atmospheric methane, Carbon monoxide mixed to Water Vapour gas–phase molecules, are measured using a CRDS "cavity ring down spectroscopy" (PICARRO) instrument. NO, NO_2, O_3 greenhouse gases, are also detected by THERMOtei49i and THERMOtei42i analyzers.
We study the temporal evolution of the hourly and daily mean values of the concentrations of the greenhouse gases and a seasonal variability. The influence of meteorological parameters and local circulation, on the concentration of CH4, CO, and CO_2, NO_x, Ozone and pollutants are also analyzed. Some evidence of forest fire smoke detection are also reported.
A further analysis on the correlations with back-trajectories technique based on high resolution atmospheric model outputs are also showed.