



Tunable Diode Laser Remote Sensing of Vehicle Emissions

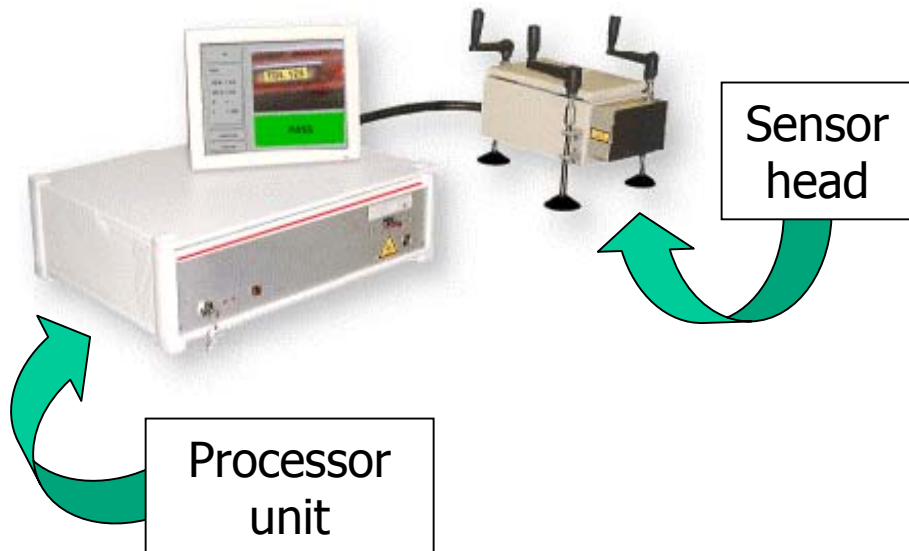
TDL Sensors Ltd 2003



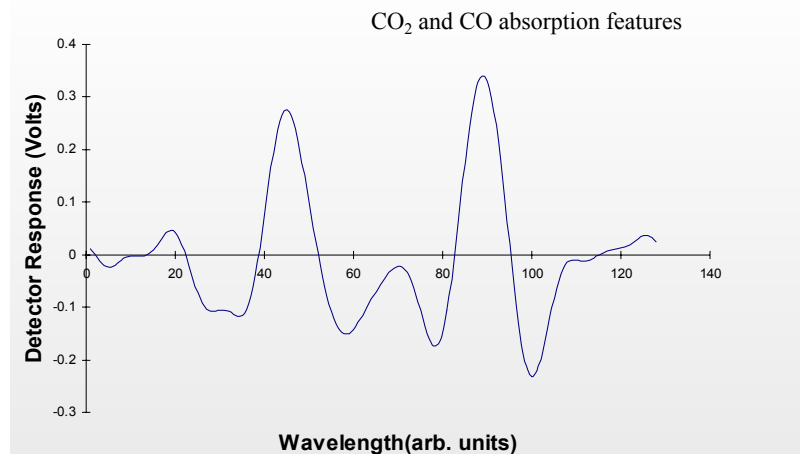
On-Road Remote Sensing of Vehicle Emissions

Principle of Operation

The AERmonitor 2G instrument consists of three main parts, the processing unit, the sensors head, and the retroreflector



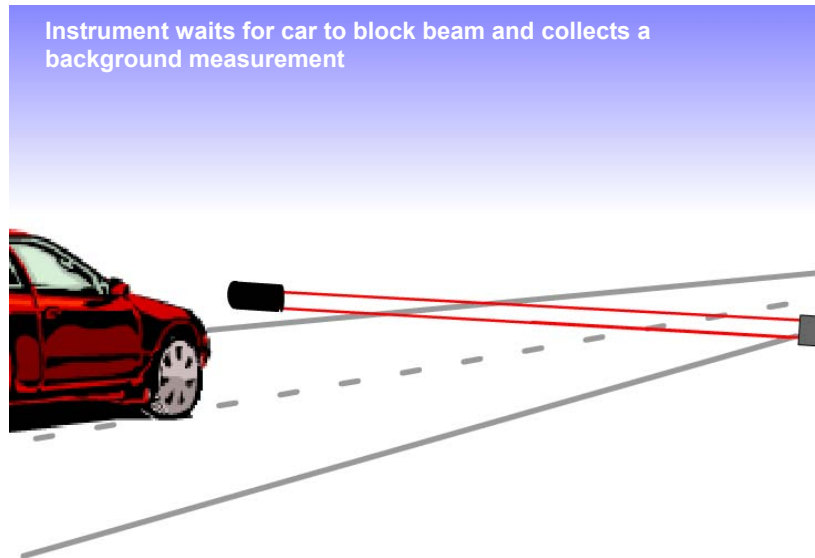
Measurements are based upon the principle of infrared absorption spectroscopy, whereby, wavelength dependant changes in light levels are detected using novel detection techniques developed by TDL Sensors.



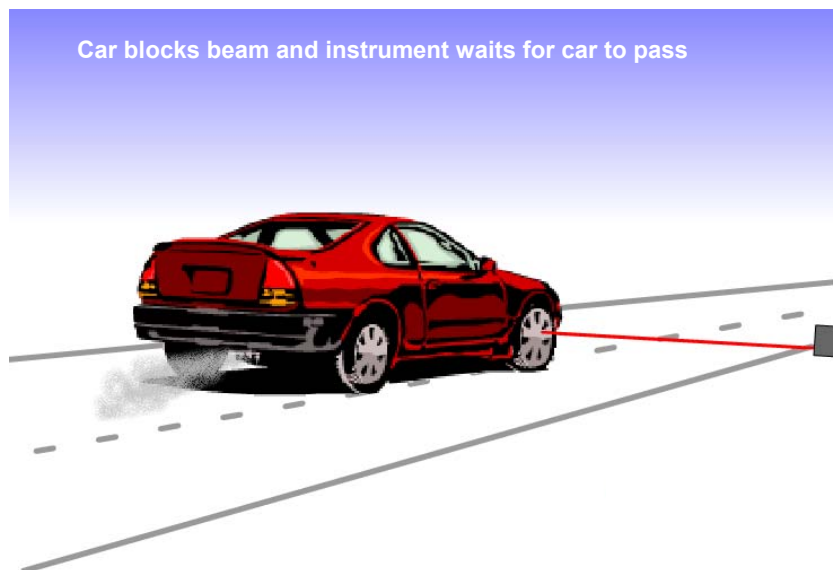
On-Road Remote Sensing of Vehicle Emissions

Principle of Operation: continued

The sensor head is set up on one side of the road and the return optics on the other.

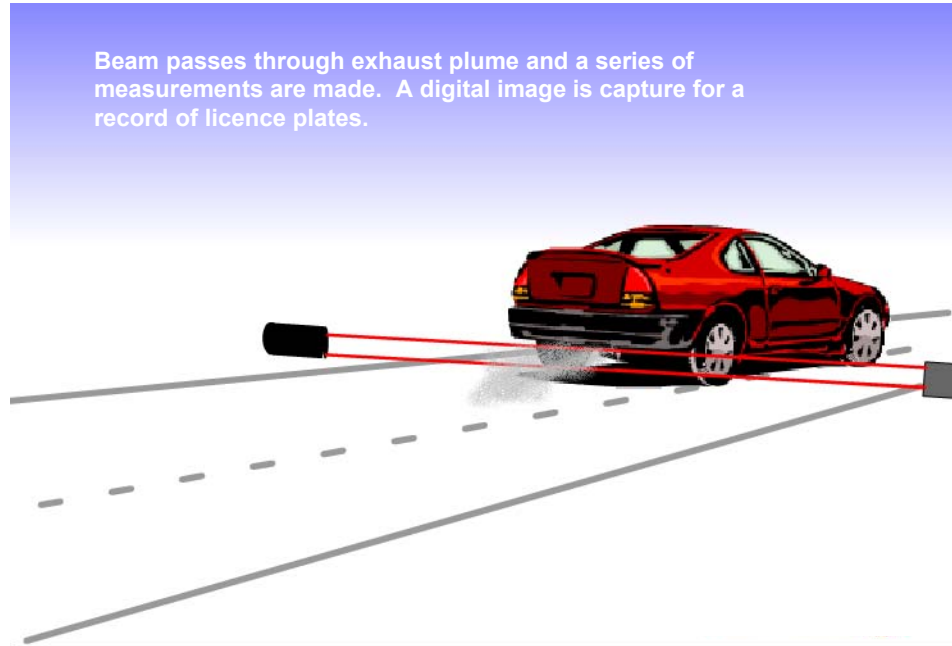


A large contribution to the CO produced by vehicles is from a relatively small proportion of vehicles



On-Road Remote Sensing of Vehicle Emissions

Principle of Operation: continued



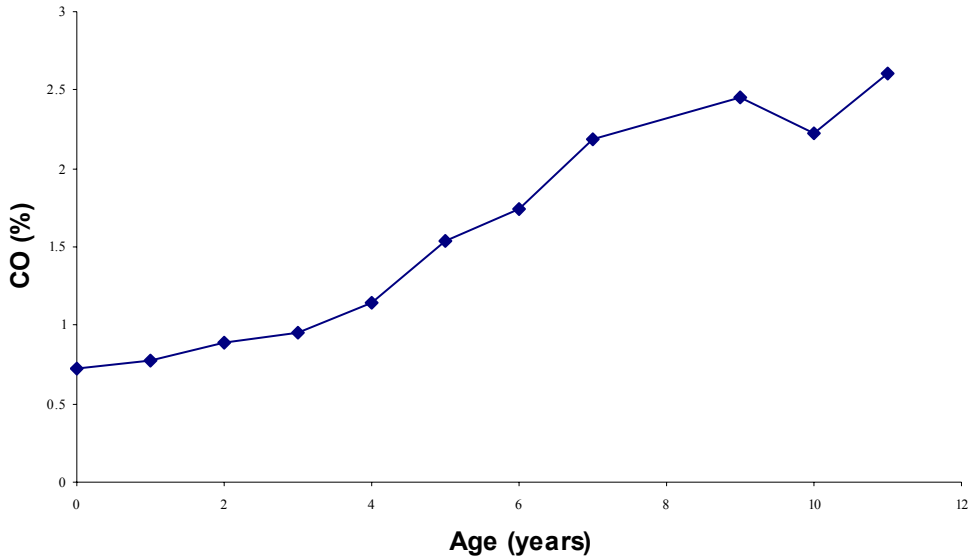
Instrument software is simple and easy to use when out in the field.



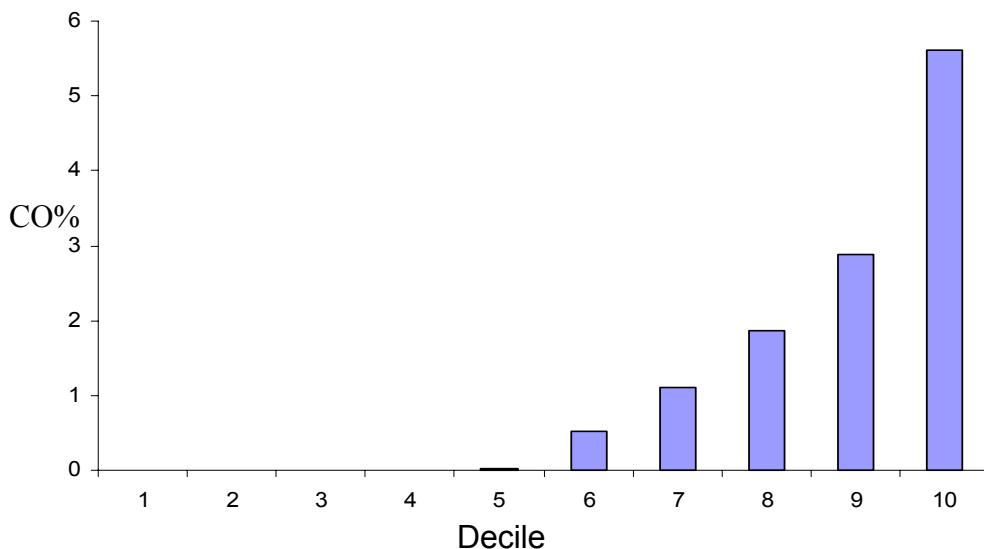
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Results from trials

CO contribution by vehicle age (from 350 vehicles)*



A large contribution to the CO produced by vehicles is from a relatively small proportion of vehicles (47% of CO from 10% of vehicles)*



* Work carried out in conjunction with the UK Vehicle Inspectorate

