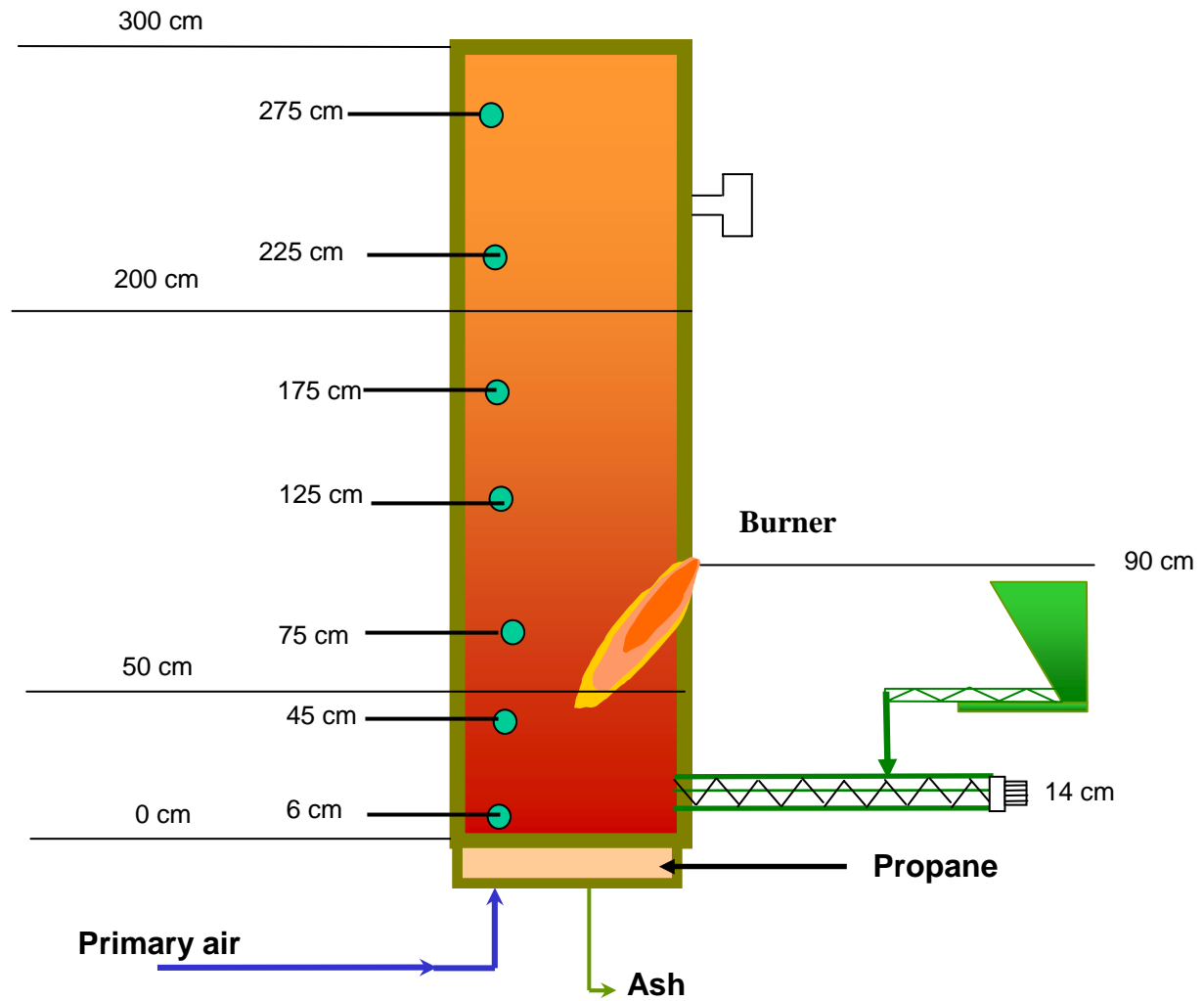


PROPANE GAS COMBUSTION ON A BUBBLING FLUIDISED BED

A. Bahillo, J. Otero and A. Cabanillas

Fossil Fuel Department

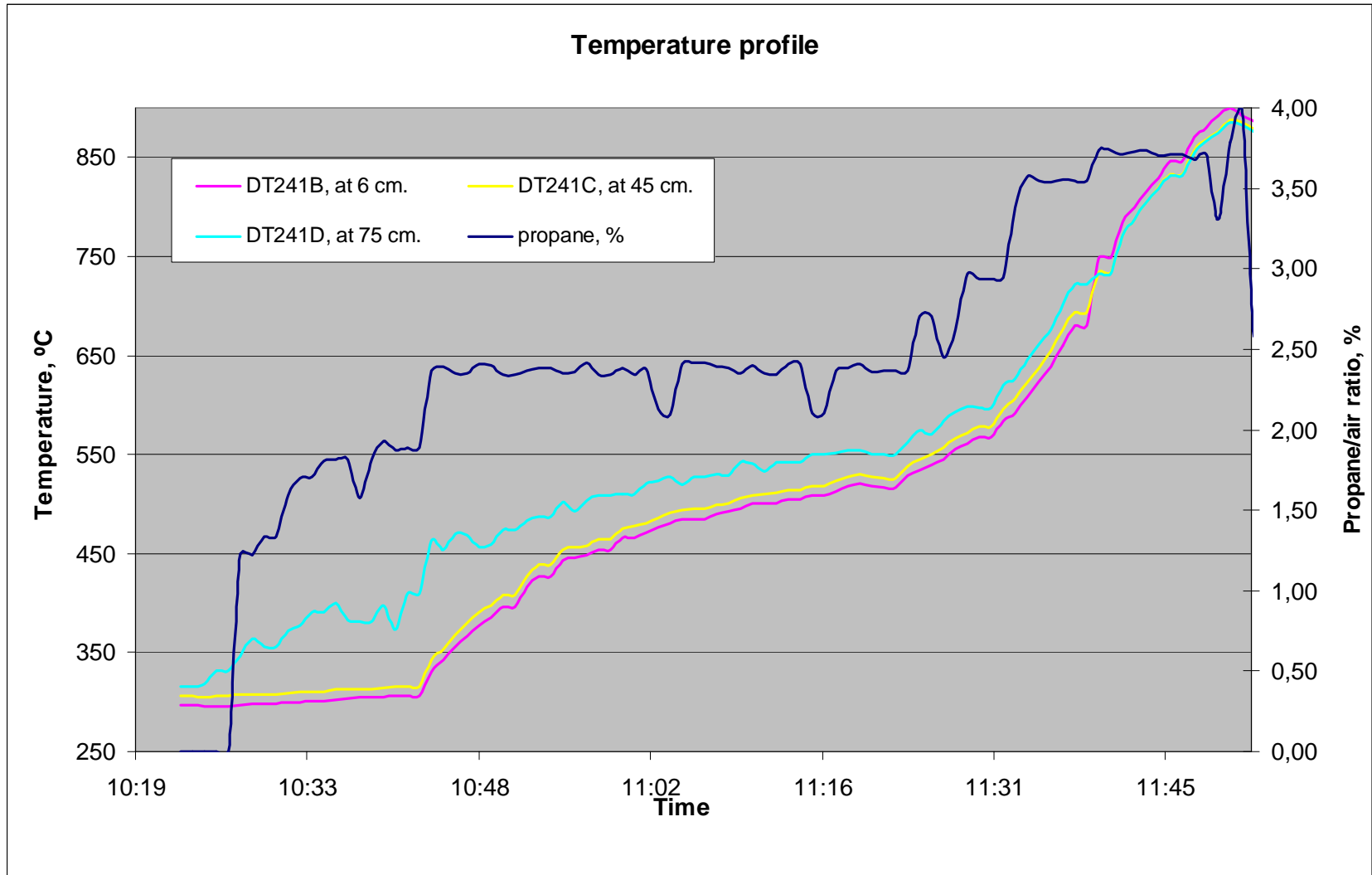
CIEMAT (Madrid- Spain)



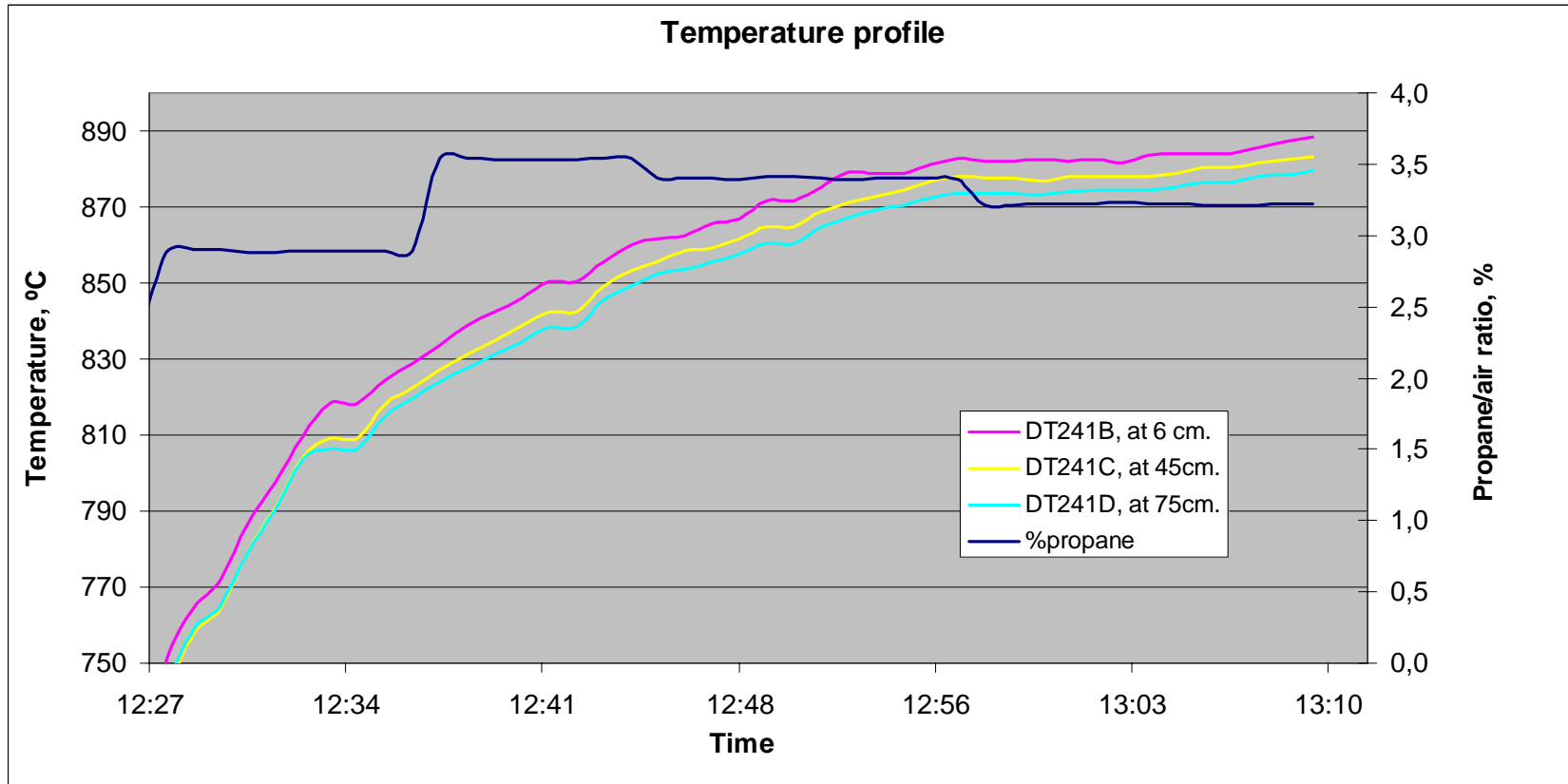
BUBBLING FLUIDISED BED PILOT PLANT

PROPANE CHARACTERISTICS	
Low inflammable limit in air at 20°C, 1 atm	2.2 %
High inflammable limit in air at 20°C, 1 atm.	9.5 %
Minimum self-ignition temperature at 1 atm.	480°C

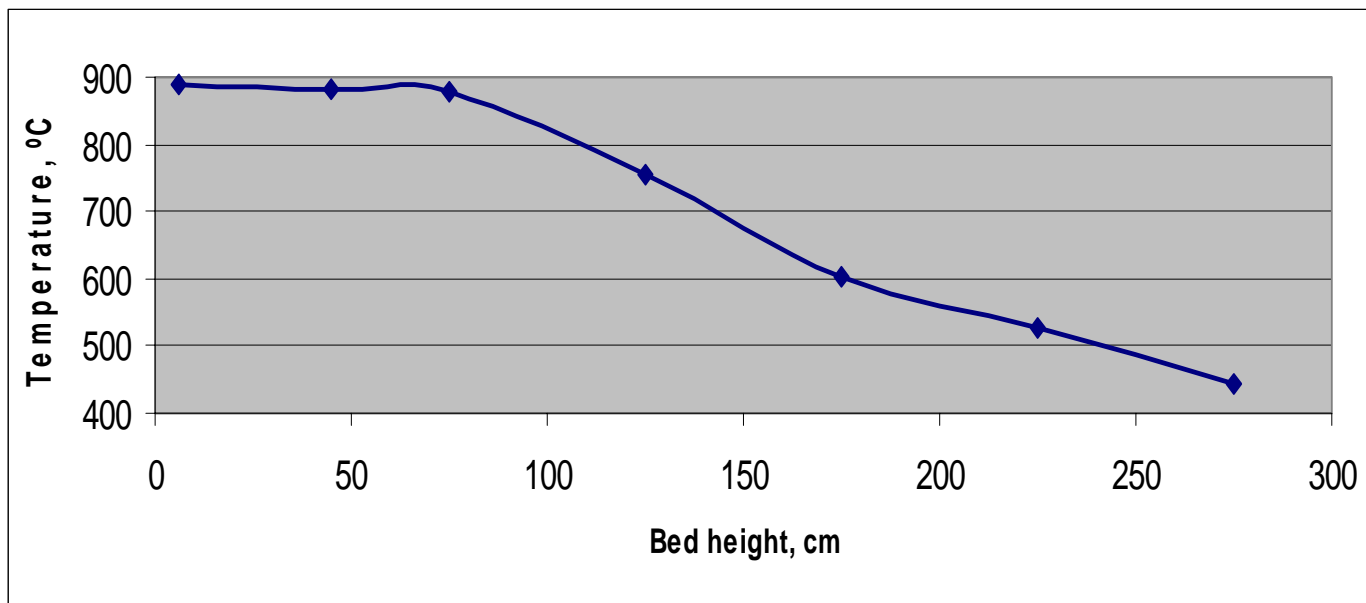
PROPANE INFLAMABILITY



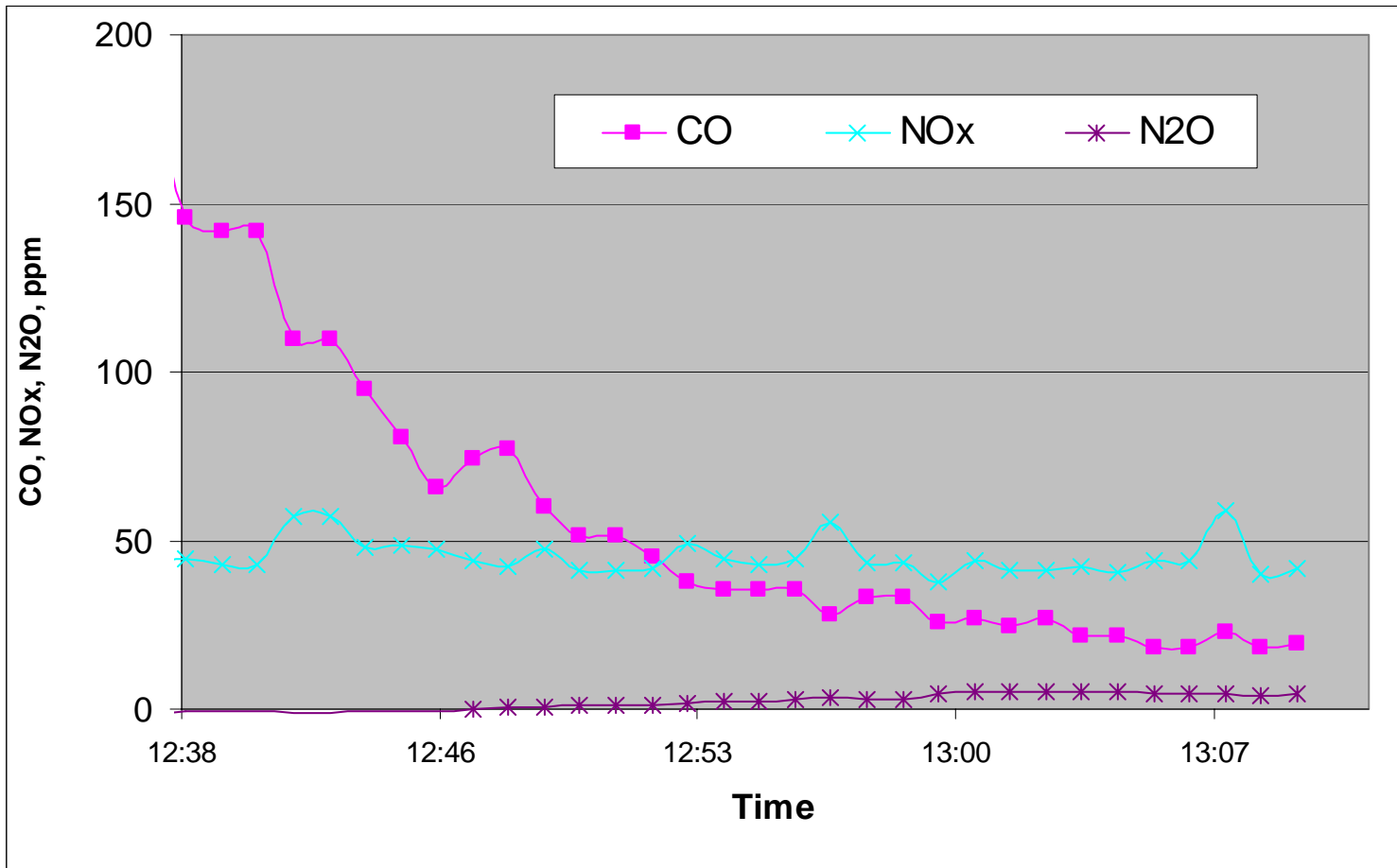
TEMPERATURE EVOLUTION DURING THE START UP PROCESS



TEMPERATURE EVOLUTION DURING THE START UP PROCESS



STEADY TEMPERATURE PROFILE IN THE PILOT PLANT



EMISSIONS DURING THE PROPANE COMBUSTION PROCESS