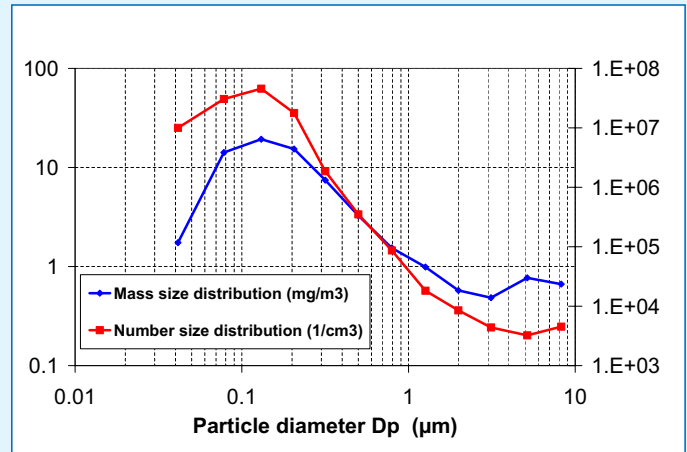


# Particle Emissions from Small-Scale Biomass Combustion

## Particle Size Distributions

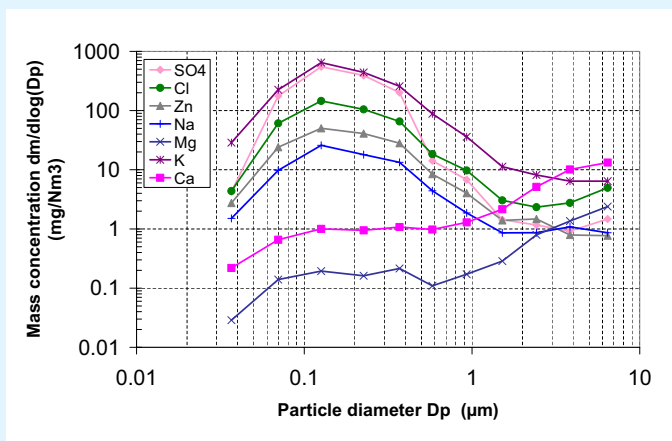


Number concentrations and number size distributions are determined using an ELPI (Electrical Low-Pressure Impactor). Mass size distributions are measured with a Dekati Low-Pressure Impactor.

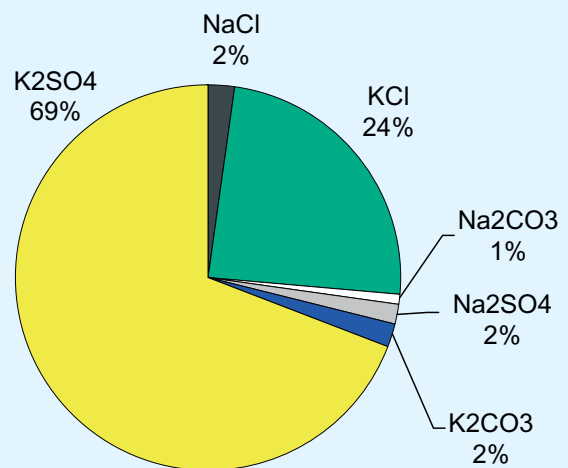


Particle size distributions for particles emitted from a domestic pellet burner with pilot flame (80 % load).

## Chemical Composition of the Particles Emitted



The distribution between alkali compounds in submicron particles emitted from a pellet burner with electric ignition was investigated. It was found that the main compound was potassium sulphate. The work was done using a new method based on TOF-SIMS (Time-of-flight Secondary Ion Mass Spectrometry), which has been developed at SP Chemistry and Materials Technology.



Mass size distributions of some main components in flue gas from a domestic pellet burner are shown. This figure indicates the differences in the chemical composition of the submicron (size < 1 µm) and supermicron (size > 1 µm) particles.

