



Particulate Metal Emissions from Wood Incineration Measured Online Using RDD-SMPS-ICPMS

A. Hess^{a,b}, M. Tarik^a, D. Foppiano^{a,b}, A. Schuler^a, C. Ludwig^{a,b}

^a Paul Scherrer Institut (PSI), Switzerland

^b École Polytechnique Fédérale de Lausanne (EPFL), Switzerland

Background

Influence of material coatings, impregnations, or additives, on particulate emissions during thermal end of life treatment

RDD-SMPS-ICPMS: Element aerosol analysis

Pilot experiment: Non-treated beech sawdust pellet as reference fuel

Concept

Laboratory furnace: Thermogravimetric Analyzer (TGA)

Gas quench interface: continuous gas flow

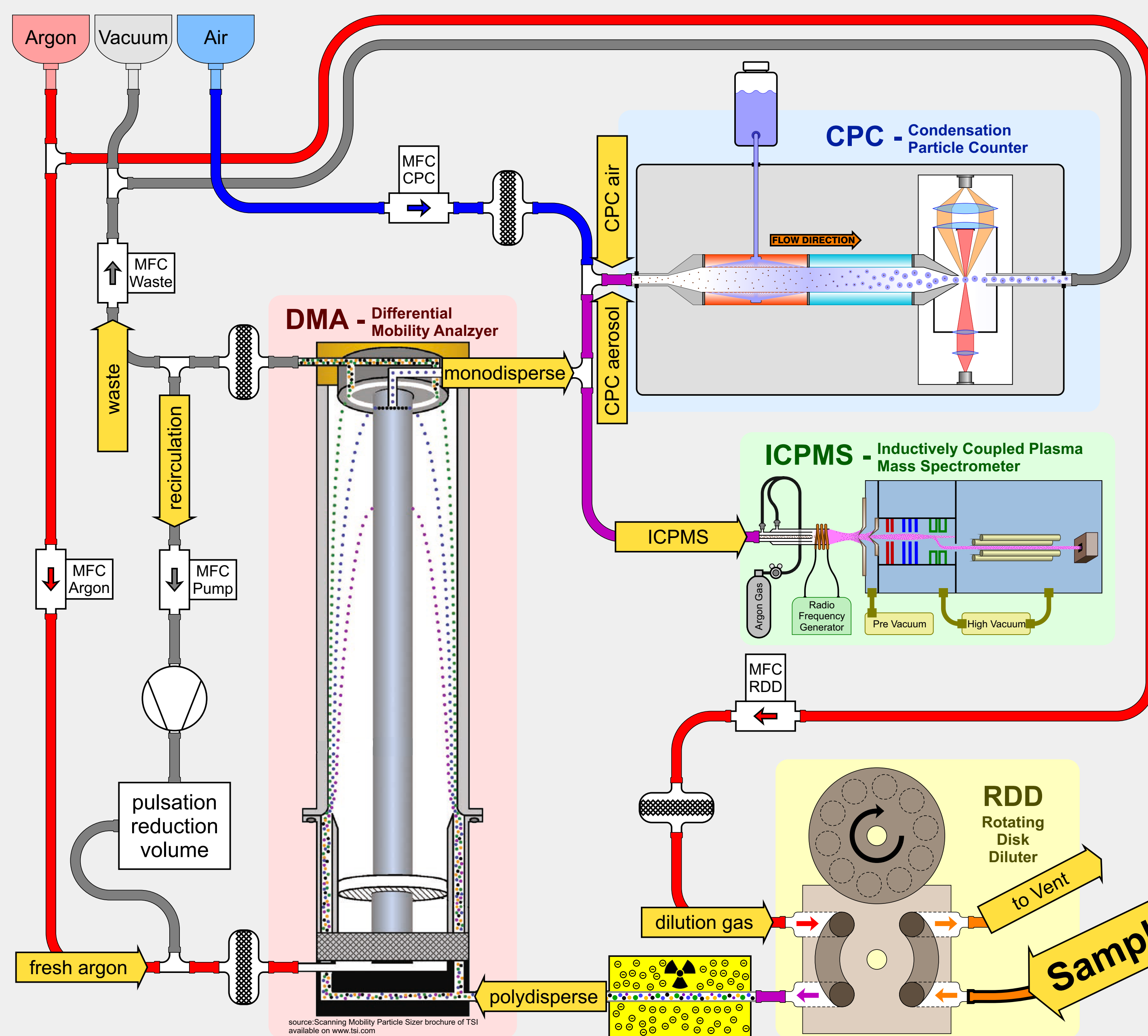
ICPMS element characterization

(A) overall aerosol

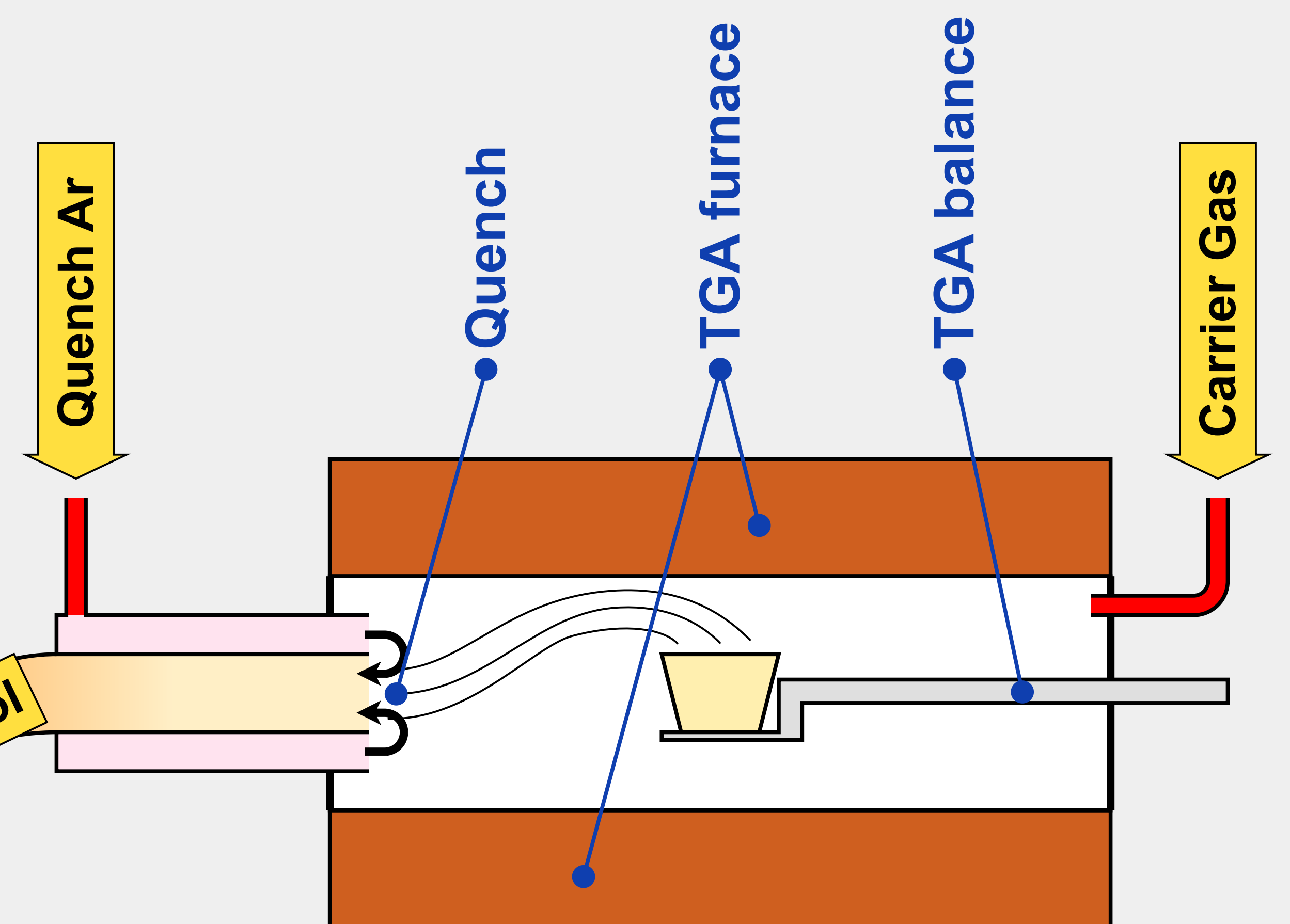
(B) filtered aerosol carrier gas

(C) SMPS classified particles

Measuring Arrangement



TGA temperature range: ambient - 950 °C
Reproducible temperature curves
Aerosol sample rate defined by carrier and quench gas mass flow controllers



Preliminary Data

