femtoG
Unveiling structure

femtoG
www.femtoG.com
+41 78 693 52 42

LABORATORY REPORT

Sample:	Sample	Analysis:	M²AS scans (u+d)	Protocol:	sr-22-b
Customer:	Customer	Measured on:	2022-09-15	Date:	2022-10-16
Order number:	22_XYZ_SR_001	Operator:	ff	Report by:	jw

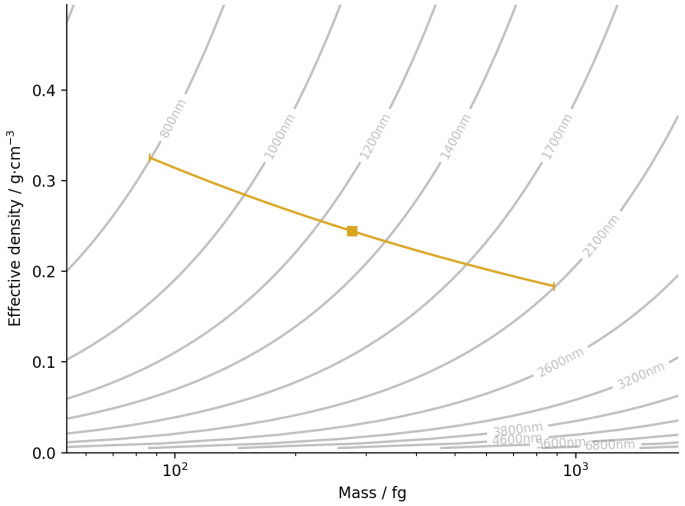
Methodology

The Mass & Mobility Aerosol Spectrometer (M²AS) measures jointly the particle mass (m) and electric mobility diameter (d). Based on these parameters the effective density (ρ) is calculated as $\rho=(6m)/(\pi d^3)$. The material characteristic density interval (= fingerprint) represents the center 50% of the material's mass weighted lognormal fit.

Fingerprint

Quartiles

Quartile	q_{25}	q_{50}	q_{75}
Effective density / g·cm⁻³	0.326	0.245	0.184
Mass / fg	86.53	276.3	882.4
Diameter / nm	795.3	1288	2087



Mass-diameter correlation ($m = \kappa \cdot d^{\delta}$)

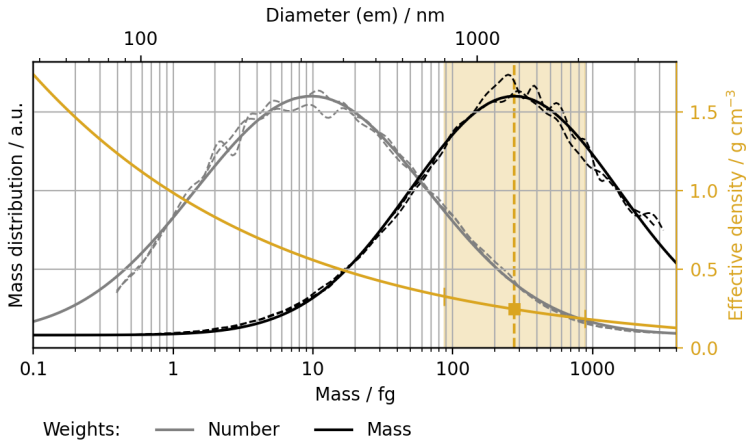
Pre-factor κ	9.01e-06
Fractal index δ	2.407

Mass distribution details

Mass distribution parameters:

Weights	Number	Mass
μ	9.753	276.270
σ	1.911	1.720
R^2	0.995	0.996

For a mass distribution of form $1/(\sigma\sqrt{(2\pi)}) \cdot \exp(-(\ln(m/\mu)/\sigma)^2/2)$



Example report downloaded at
www.femtoG.com

This analysis represents (within normal testing variances) the test results from the sample(s) submitted. The analysis may not represent the entire lot, batch or production run. In no event shall femtoG be responsible or liable for any direct, indirect, punitive, incidental, special, or consequential damages whatsoever arising out of or connected with the use of, misuse of, or reliance upon such results or analysis. This laboratory report is subject to the Terms and Conditions found at www.femtoG.com.

© femtoG 2022