1-3 nm particles in urban air

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Principle of detecting the smallest particles
nCNC system

Sampling:
The losses of the smallest particles are remarkable → Short sampling lines

Nucleation:
PSM acts as a nucleation chamber; delicate process that is sensitive to the same parameters that affect nucleation in general

Measurements in Helsinki – urban background & near road

PSM flow diagram

Summary of studies:
• Always ~1 000 – 100 000 particles/cm³ in the size range < 3 nm in the atmosphere.
• This size range consists of molecules, clusters and particles.
• Most of them are neutral and cannot be measured using techniques based on e.g. electrical mobility.
• Crucial to measure to understand particle formation

Further reading:
www.airmodus.com → Highlights → Publications