Application – Ambient Air Monitoring

with testo DiSCmini
Application #1: Air quality monitoring

ETH Conference on Combustion Generated Nanoparticles, June 25-27, 2012

Commute exposure to ultrafine particles (UFP) in the city of Basel, Switzerland
Commute exposure to ultrafine particles: Areas of interest

- Health effects & exposure assessments
- Spatial exposure differences
- Exposure determinants
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Particle Number Concentration by mode of transport & time of the day/week
(mean ± SD)

18 sampling days (6 weekends, 18 weekdays) in spring & fall 2011
275 trips, based on individual trip medians
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Our UFP measurements in Basel suggest...

- Higher exposure levels for car (40’000 particles), bicycle and walking (29’000-33’000 particles) compared to public transport (21’000-26’000 particles)

- Commuting by bike contributes to daily exposures, especially in winter (21%)

- Avoiding main streets reduce commute exposure by one half
Personal exposure to nanoscale particles in everyday life

nanoIndEx final workshop
Berlin, May 31st, 2016
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Sightseeing tour in Pisa

(c) Piazza dei Miracoli

Map of Pisa with color-coded areas indicating air quality levels:
- Blue: 20,000 - 40,000
- Yellow: 40,000 - 60,000
- Orange: 60,000 - 90,000
- Red: >90,000

Images of street scenes:
- (b) and (h) show the tour route
- (d) and (e) depict local landmarks and activities
- (f) shows a coffee shop
- (g) shows a view of the city

Christof Asbach

www.nanoindex.eu
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Number concentrations in Pisa

Piazza dei Miracoli

miniDiSC: 26,940 ± 6,570 1/cm³
PUFP C100: 33,000 ± 7,190 1/cm³

Giardino Scotto

miniDiSC: 9,230 ± 1,310 1/cm³
PUFP C100: 11,970 ± 1,580 1/cm³

Asbach and Todea, Gefahrstoffe – Reinhaltung der Luft (in preparation)
Ambient air monitoring

Contact Testo for reference list
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