GRAIN SIZE DISTRIBUTION AND ZETA POTENCIAL INVESTIGATION IN LABORATORY OF NANOSTRUCTURES FOR PHOTONIC AND NANOMEDICINE CePT

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Our mission and specialization is production and characterization of nanopowders.
Proper characterization of nanostructure of powders is the key stage for nanotechnology process.

Thanks to the project CePT we purchased modern equipment for characterization of average grain size, grain size distribution and zeta potential of the suspension.

NANOSIGHT NS 500

Nanoparticle Tracking Analysis

Application
The **NS500** is proven with most nanoparticle classes down to 10nm (dependent upon particle type) dispersed in a wide range of solvents:
- Ceramic and metallic nanoparticles
- Pharmaceutical nanoparticles - liposomes
- Viruses
- Carbon nanotubes (multi-walled)
- Colloidal suspensions and polymer nanoparticles
- Cosmetics and foodstuffs
- Nanoparticles in fuels and oils (soot, catalyst, wax etc.)
- Wear debris in lubricants
- Chemical Mechanical Polishing Slurries
- Nanotoxicology studies

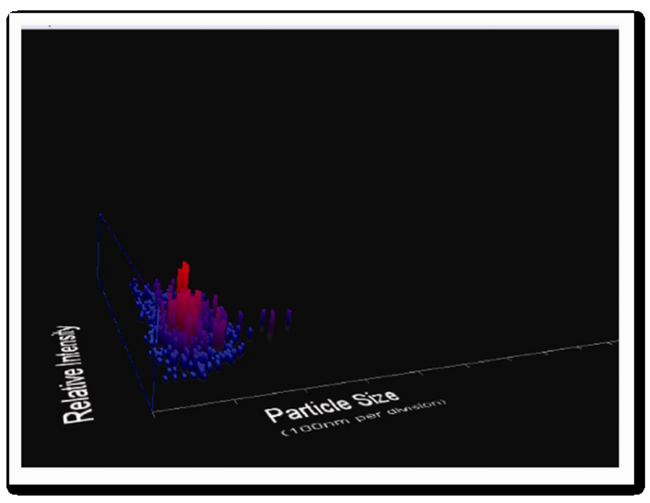
Specification
Nanoparticle analysis range: typically 10 nm - 1000 nm, dependent on particle material
Particle type: any
Solvent: any non-corrosive solvent and water. A range of solvent-resistant seals are available.
Power requirement (own adapter supplied): 110-220V
Laser output: 75mW at 532 nm (Class 1 Laser Product)
Sample volume requirements: 100µl

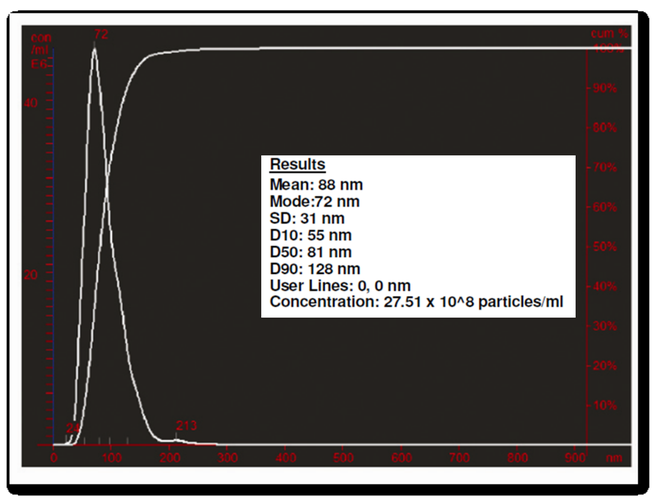
ZETASIZER NANO ZS

Dynamic Light Scattering

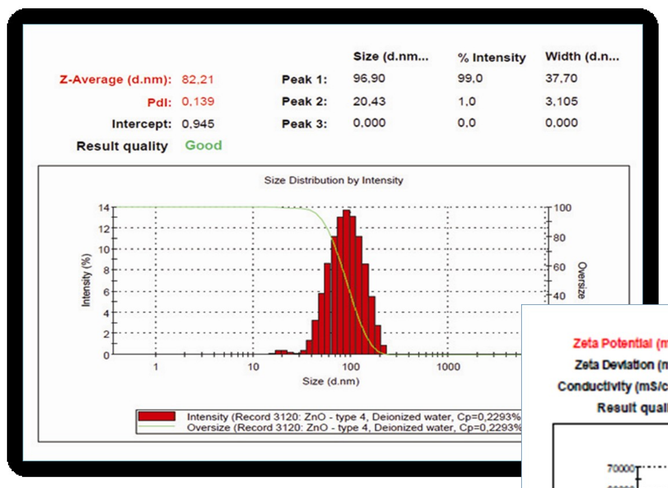
The **Zetasizer Nano ZS** is a high performance two angle particle and molecular size analyzer for the enhanced detection of aggregates and measurement of small or dilute samples, and samples at very low or high concentration using dynamic light scattering with 'NIBS' optics. The ZSP also incorporates a zeta potential analyzer that uses electrophoretic light scattering for particles, molecules and surfaces, and a molecular weight analyzer using static light scattering.

Grain size distribution (ZnO nanoparticles)

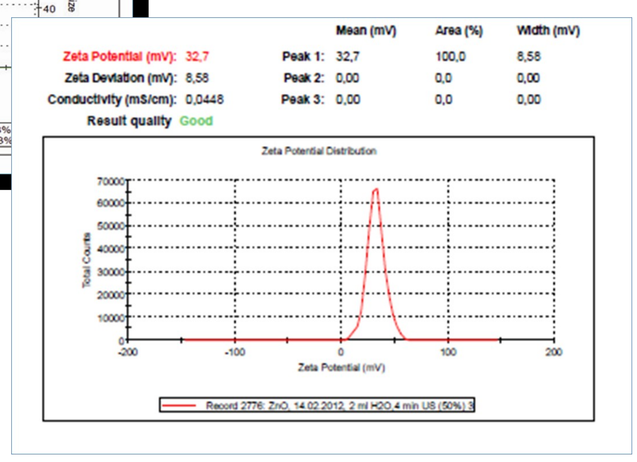




Grain size distribution (ZnO nanoparticles)



Zeta potential (ZnO nanoparticles)



In our laboratory we did characterization of nanopowders received by our team, as well as provide research services.

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