

# Elaboration and characterization of Nanoparticle-based Coatings

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## Goal

Coupling a jet of nanoparticles with PVD (magnetron sputtering)  
Elaboration and characterization of Nanoparticle-based Coatings

## Context



Coordinator



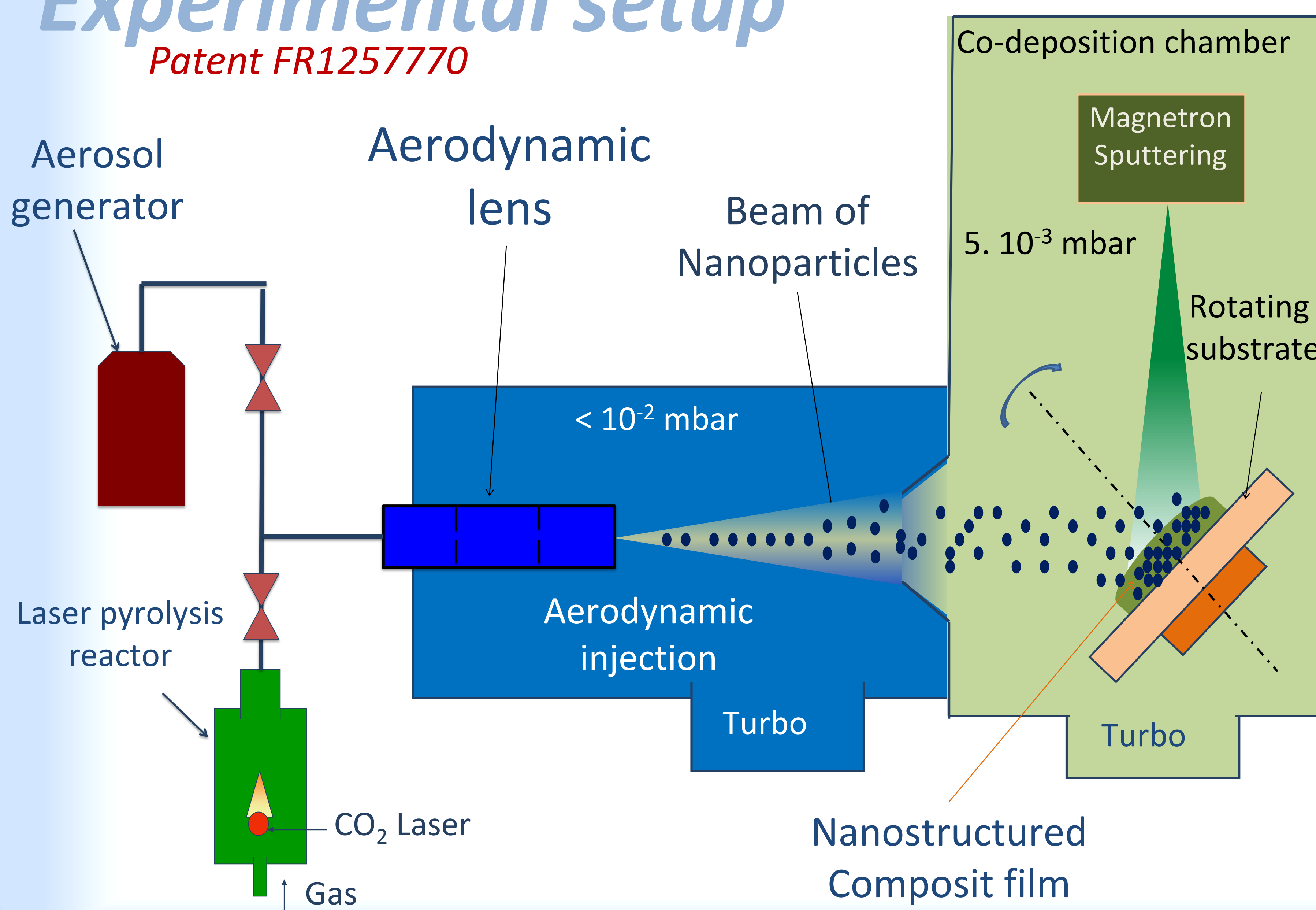
4 years, starting from January 2015

Developing a new process

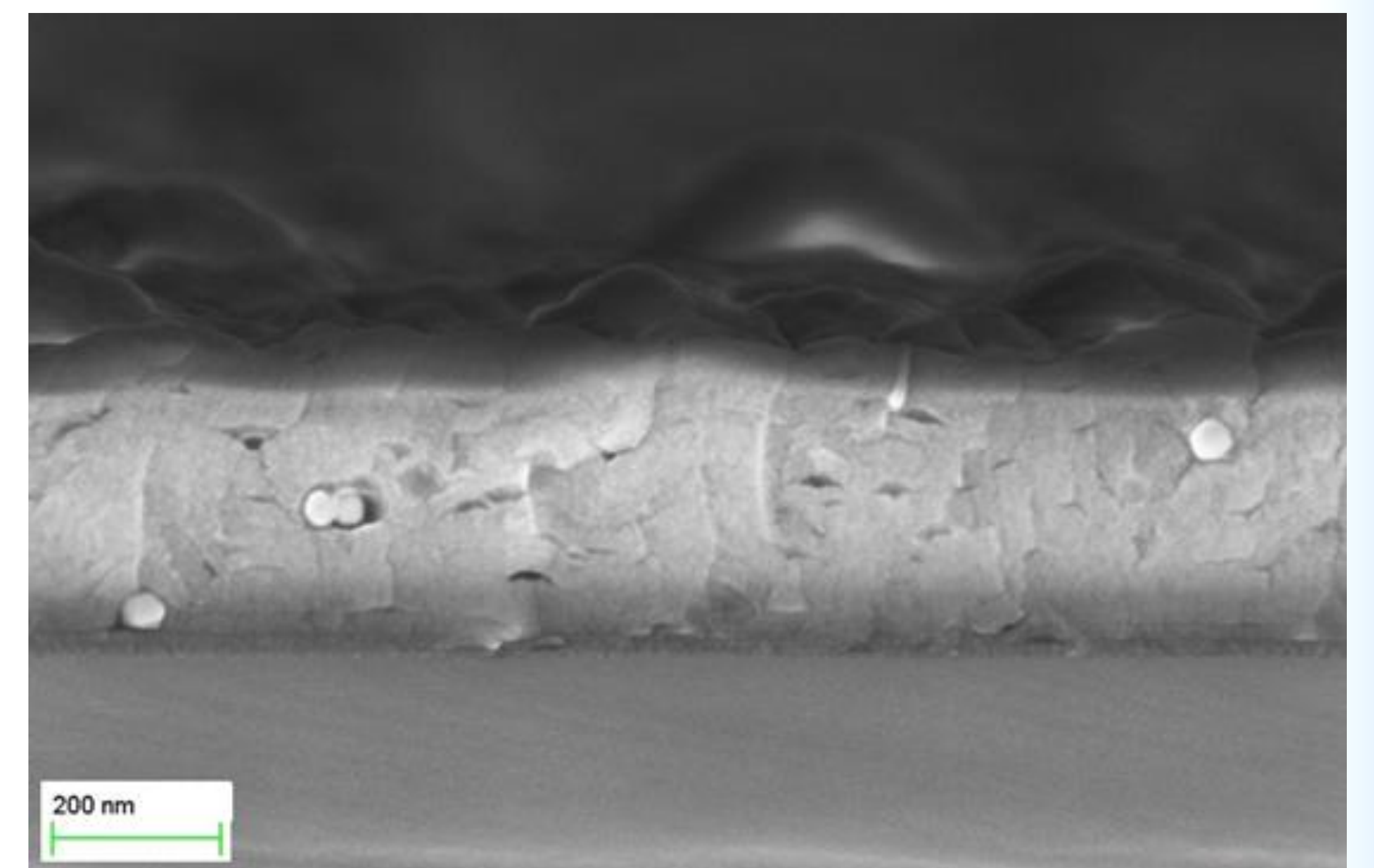
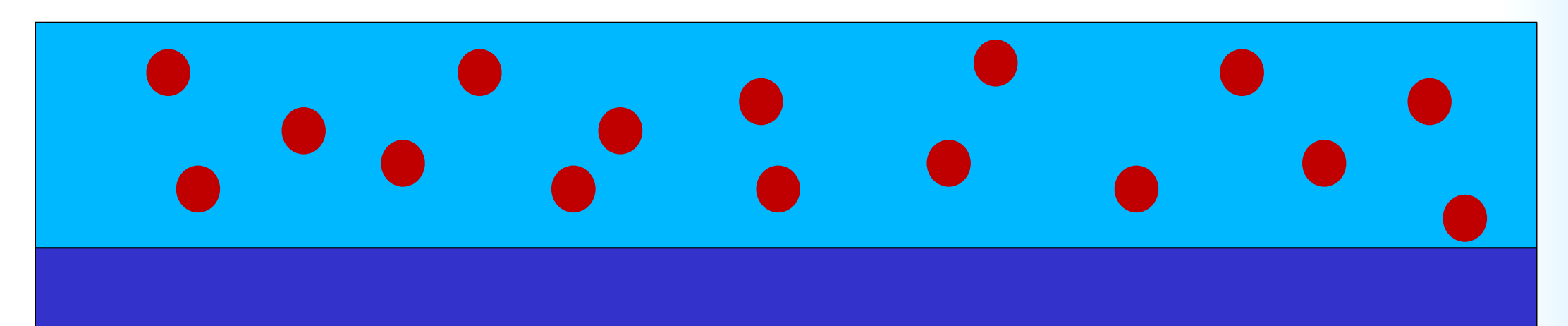
**No limitation in the material choices**  
**Safe-by-design process**  
**Adjustable nanoparticle density**  
**Large areas ...**

## Experimental setup

Patent FR1257770



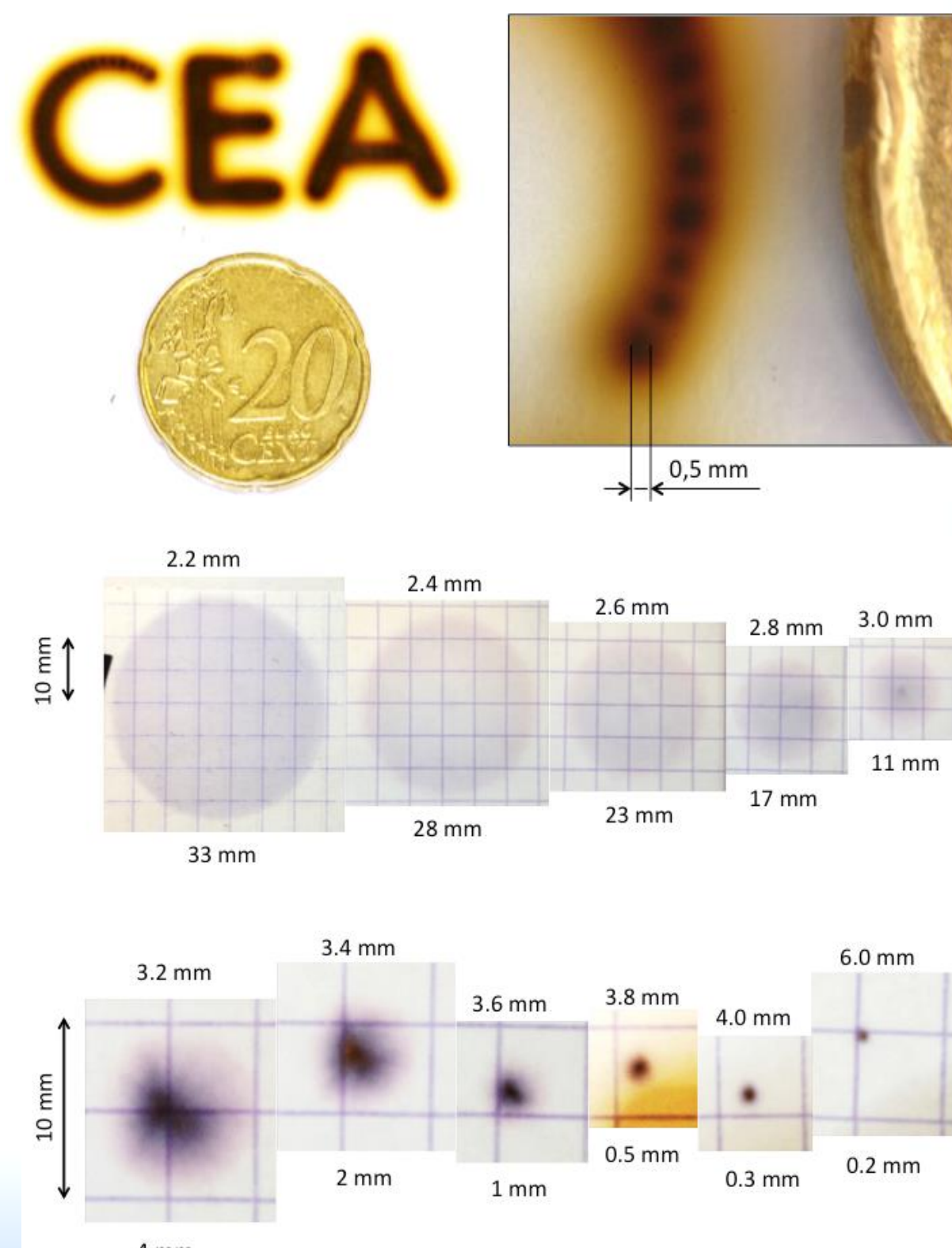
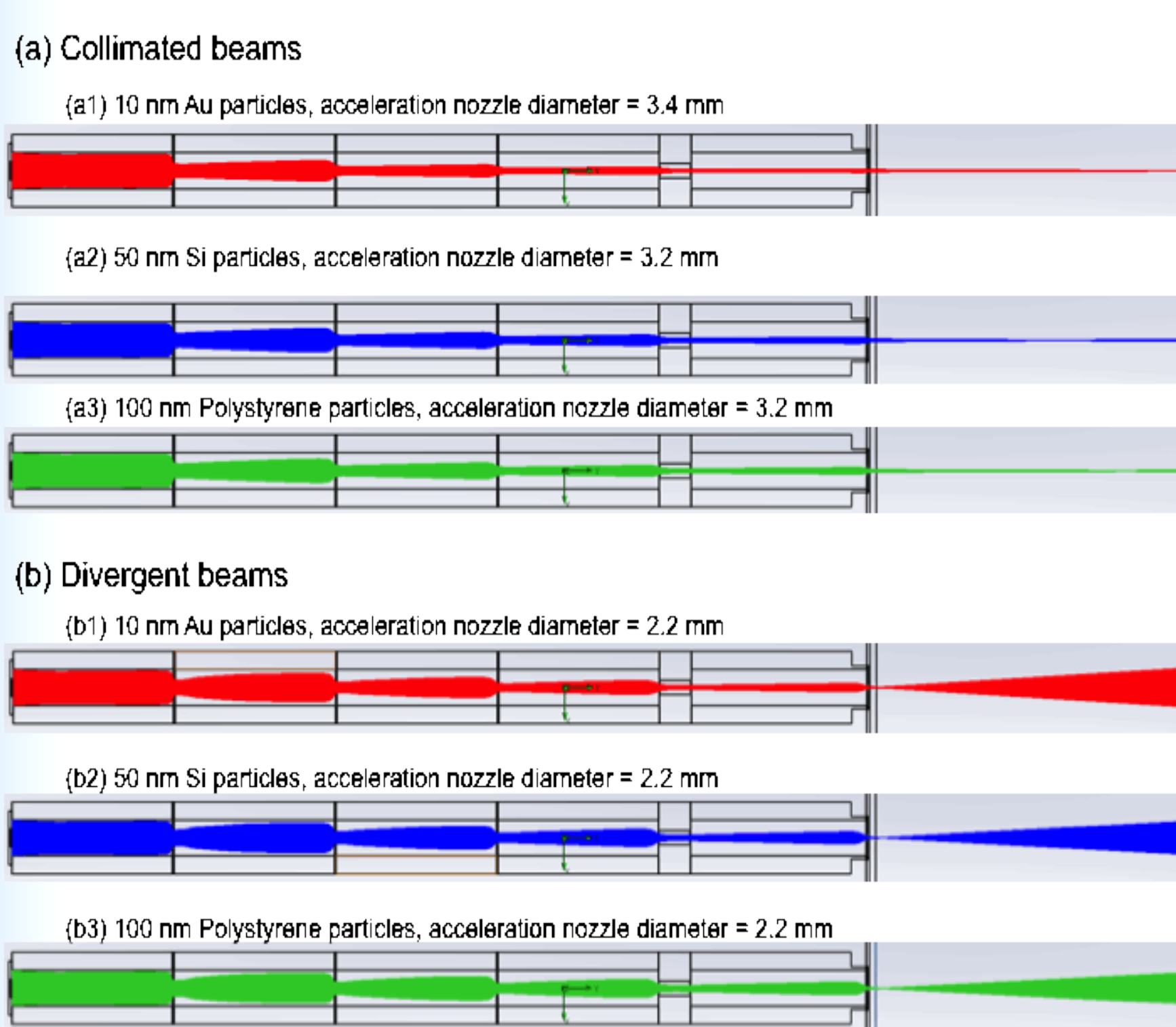
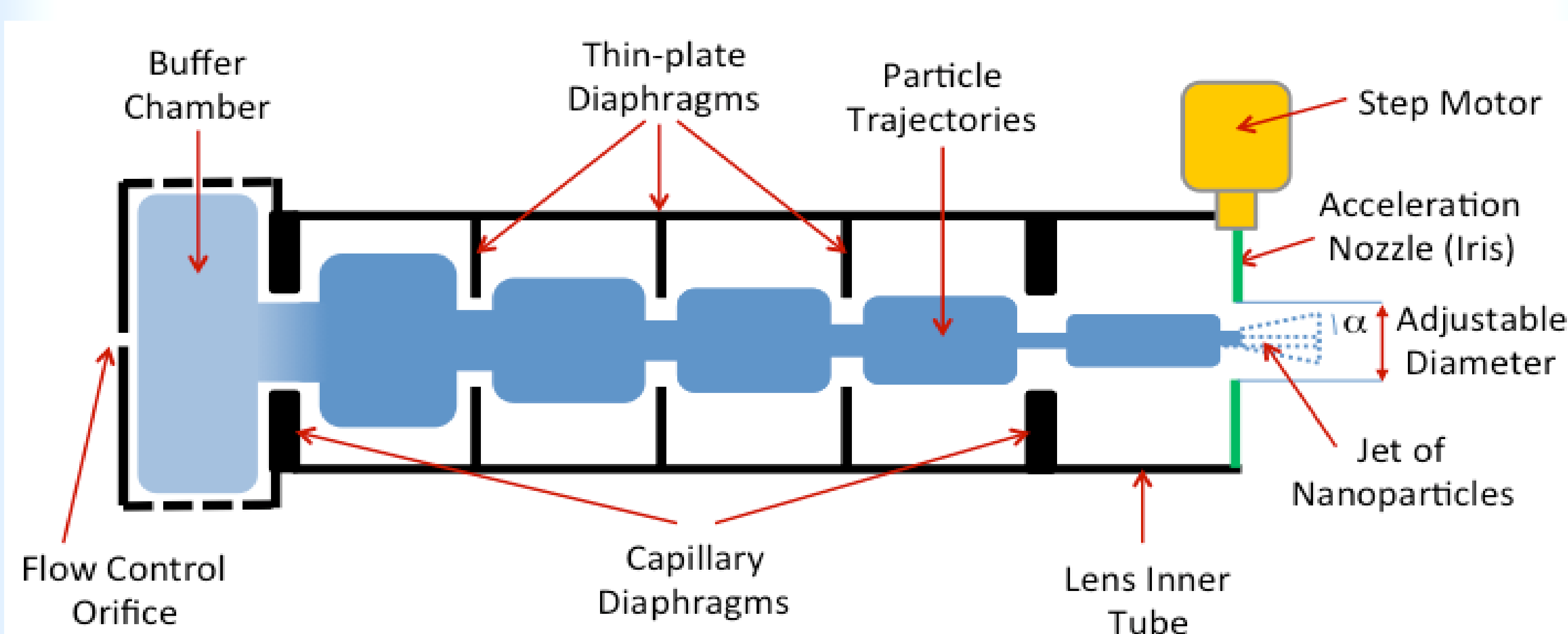
Nano-objects embedded in a matrix



SEM Micrograph of 35 nm-Au in SiO<sub>2</sub> matrix

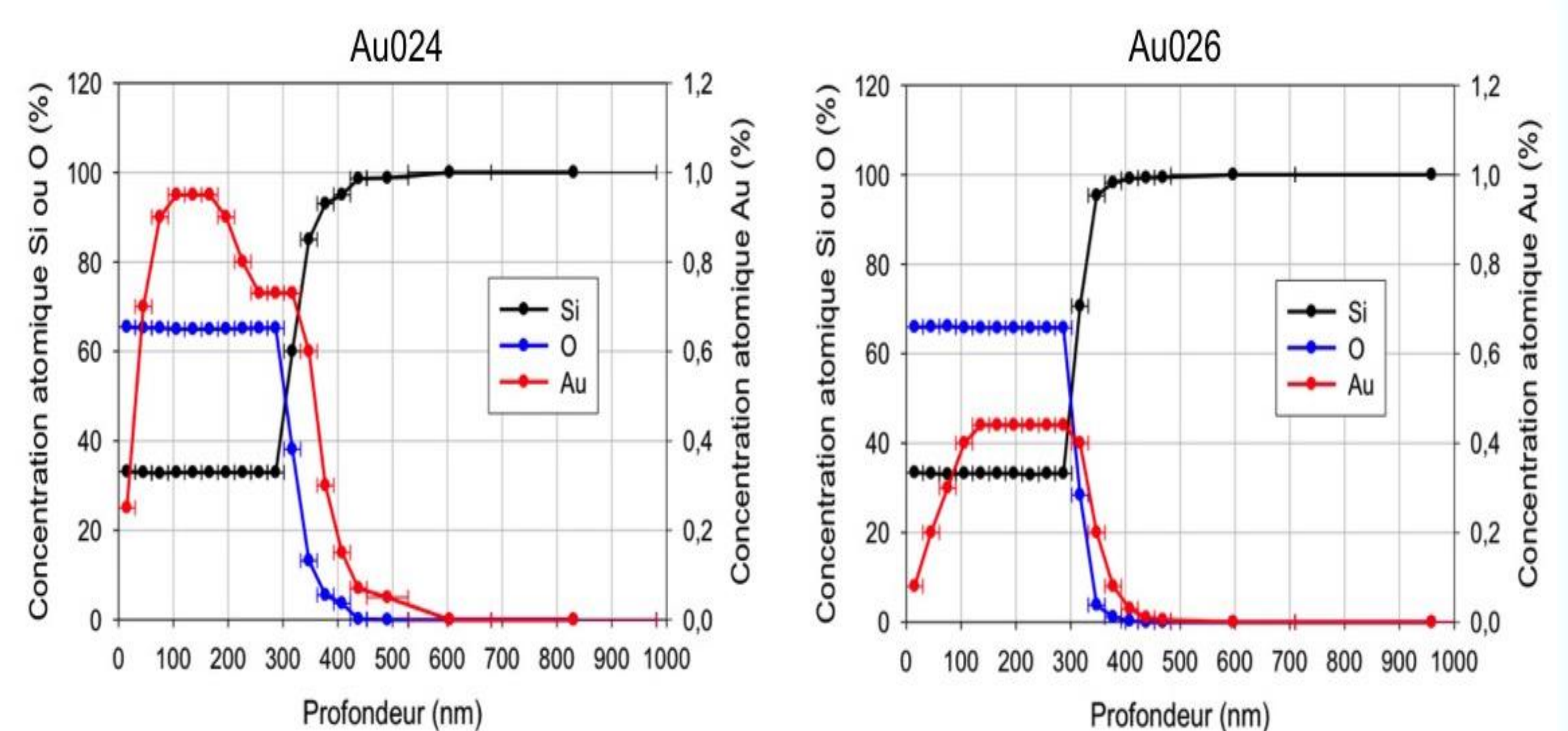
Statistical and homogeneous dispersion

## Aerodynamic lens system



## Characterization

RBS



GD-OES

