



Fundamentals of nanotechnology

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Fundamentals of nanotechnology

- * -Synthesis Routes of Nano-Structured Materials
- * Bottom - Up Approach
 - * 1-Physical Vapour Deposition Process (Inert Gas Condensation (IGC), Laser ablation)
 - * 2- Chemical vapour deposition (CVD)
 - * 3-Spray conversion processing
 - * 4-Sol-gel process
- * Top - Down Approach
 - * (Ball milling method , Electro-deposition Method & Electrospinning method)

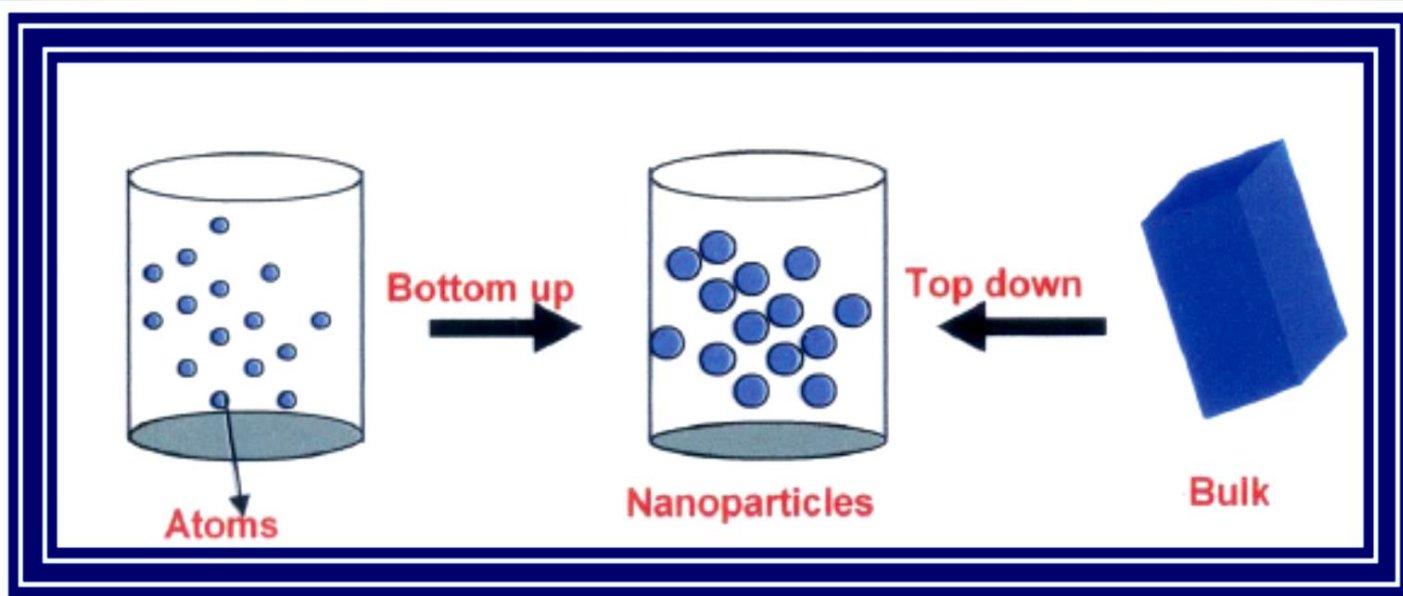


Figure 1 : Schematic representation of “bottom-up” and “top-down” approaches for the synthesis of nanometer-sized materials

A-Inert Gas Condensation (IGC)

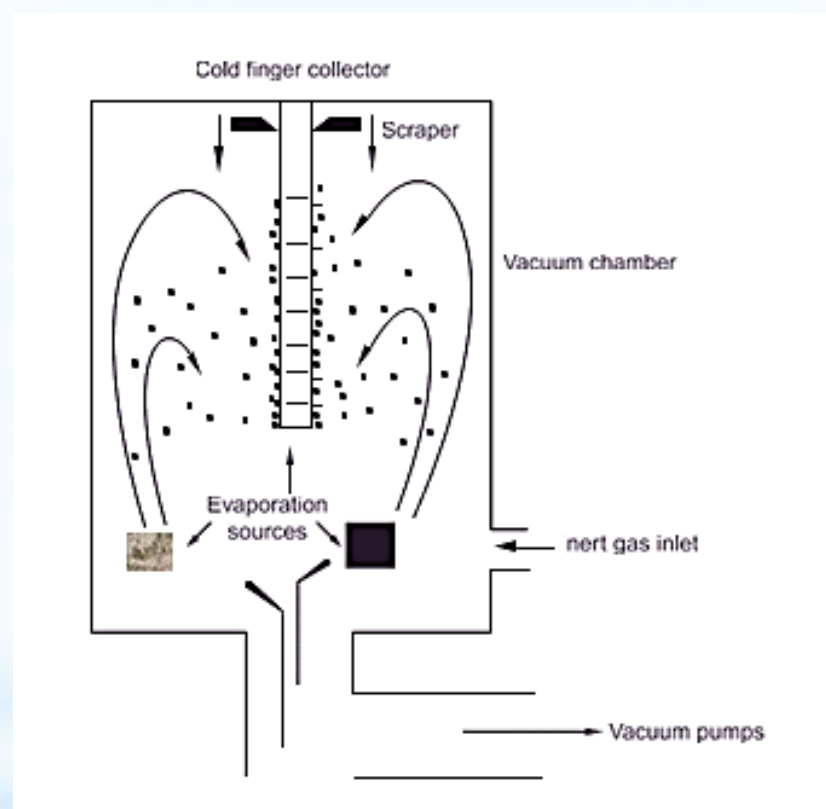


Figure (2):- Schematic inert gas condensation unit for the synthesis of nanocrystalline particles.

B-Laser ablation

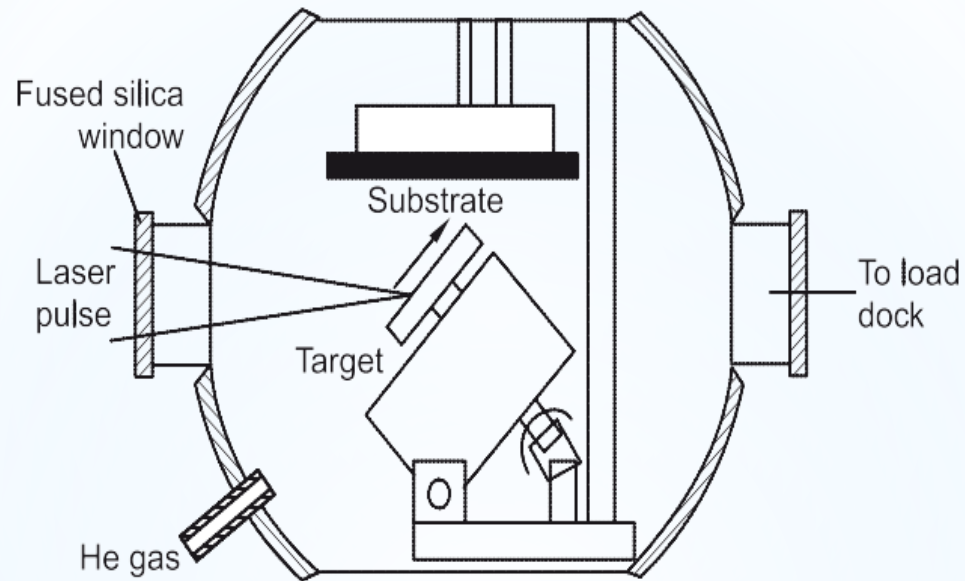


Figure (3):- Schematic of a laser ablation chamber equipped with a rotating target holder.