



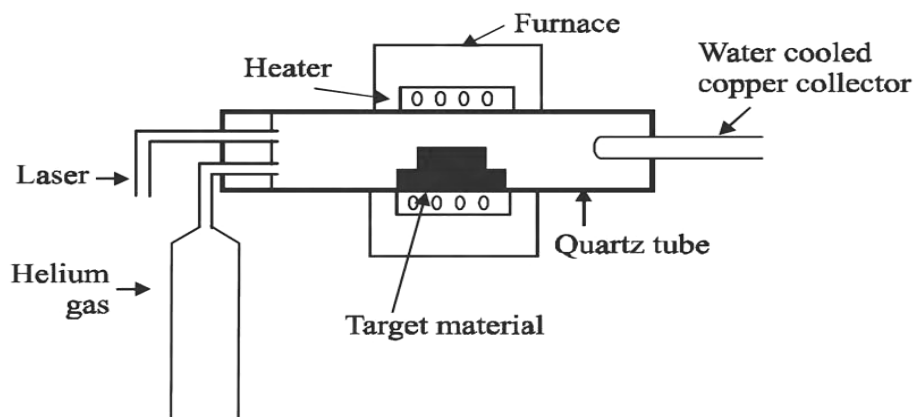
Laser Ablation

- In laser ablation, high-power laser pulse is used to evaporate the matter from the target.
- The stoichiometry of the material is preserved in the interaction.
- The total mass ablated from the target per laser pulse is referred to as the ablation rate.

Reaction Setup

- When a beam of laser is allowed to irradiate the target, a supersonic jet of particles is evaporated from the target surface.
- Simultaneously, an inert gas such as argon, helium is allowed into the reactor to sweep the evaporated particles from the furnace zone to the colder collector.
- The ablated species condense on the substrate placed opposite to the target.
- The ablation process takes place in vacuum chamber, either in vacuum or in the presence of some background gas.

A typical laser ablation setup is shown in the following figure.



Laser ablation chamber equipped with a rotating target holder

Advantages:

- No solvent is used. Hence it is eco-friendly.
- It is easy to operate.
- The running cost is very low.
- Heating temperature of the target is minimum.

