

FAQ 01-12: What is Co-Deposition?

Co-deposition is the simultaneous ("co-") deposition of two or more materials at the same time vs the traditional one material at a time. For example, traditional deposition could create a thin film made up of one layer of copper followed by second layer of aluminum. Co-deposition allows creation of a single layer of compound material of copper and aluminum.

A simplified co-deposition system might be setup like this:

Sensors 1 & 2 monitor sources 1 & 2 respectively. The controller monitors these sensors, and sends output control signals to the source power supplies. These PID control loops control the deposition rate of the materials. The control system can be setup to deposit the two materials sequentially, or simultaneously (co-deposition).

Sensor 3 monitors the thin film actually being deposited on the substrate. Sensor 3 monitors film thickness and stops the deposition process when final thickness is reached.

Note: Feedthroughs, cooling lines, oscillators, mounting and positioning details, etc are omitted for clarity.

