

ABSTRACT

IN-SITU DEPOSITION OF FILM STACKS

Methods and hardware for depositing film stacks in a process tool in-situ (i.e., without a vacuum break or air exposure) are described. In one example, a method for depositing, on a substrate, a film stack including films of different compositions in-situ in a process station using a plasma is described, the method including, in a first plasma-activated film deposition phase, depositing a first layer of film having a first film composition on the substrate; in a second plasma-activated deposition phase, depositing a second layer of film having a second film composition on the first layer of film; and sustaining the plasma while transitioning a composition of the plasma from the first plasma-activated film deposition phase to the second plasma-activated film deposition phase.

Fig. 15



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