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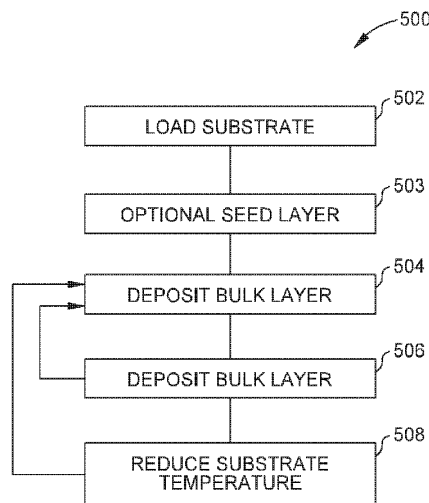


FIG. 5

(57) Abstract: Disclosed herein is an apparatus and method for fine tuning properties of a thin film. The method of forming a piezoelectric film includes (a) depositing a first piezoelectric film layer (408 (1)) on a surface of a substrate by a first physical vapor deposition (PVD) process. The method includes (b) depositing a second piezoelectric film layer (408 (2)), on top of and in contact with the first piezoelectric film layer (408 (1)), by a second PVD process. A temperature of the substrate is (c) reduced after forming the first piezoelectric film layer (408 (1)) and before forming the second piezoelectric film layer (408 (2)). The temperature is reduced by performing a process for a first period of time. Processes (a), (b) and (c) are additionally performed one or more times. Process (c) is performed for a second period of time. The second period of time is different than the first period of time.