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(54) Title: NANOSCALE PROGRAMMABLE PRECISION PROFILING WITH MICROSCALE PIXEL CONTROL

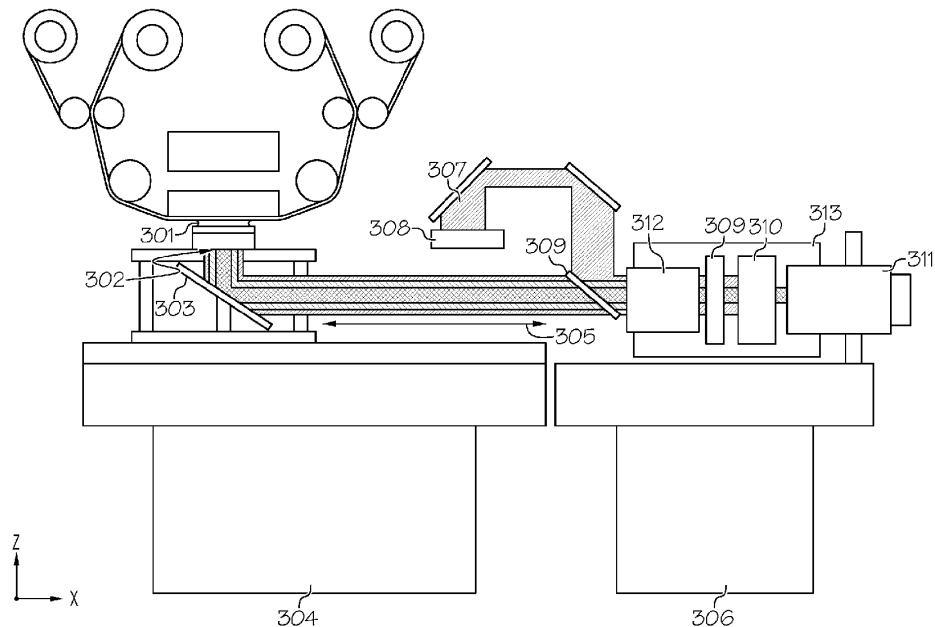


FIG. 3

(57) Abstract: A system for nanoscale precision programmable profiling. The system includes a first film stack with a superstrate, a substrate and a liquid profiling material in between the superstrate and the substrate, where the first film stack absorbs energy from photons in a range of deep ultraviolet to long-wave infrared. Furthermore, the system includes a second film stack with a solid profiling material located on the substrate, where there is a refractive index difference at an interface of the substrate and the solid profiling material. The refractive index difference enables a film thickness measurement subsystem to measure a thickness profile of the solid profiling material. Additionally, the system includes a thermal actuation subsystem to locally heat the first film stack to enable movement of the liquid profiling material.

[Continued on next page]

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