

Imprint with Independently Actuating Separable Modules

Technology Overview

- In imprint lithography process, the desired patterns may not be imprinted on the substrate by deformation and a plurality of air pockets are undesirably generated between the mold and the substrate.
- Regardless of the size and deformation of the substrate, the imprinting process can be processed without any defects via this technology.

Core Technologies

- A plurality of imprinting modules installed separately in the system
- Each of the plurality of imprinting modules is self-aligned by a compliance of six degrees of freedom, and is vertically moved along with the plate unit.

Application Area and Advantages

- Each of the imprinting modules is independently self-aligned in response for surface conditions of an objective material to compensate for a relative pose error of each of the imprinting modules with respect to the objective material.
- A sequence of imprinting the patterns of the plurality of imprinting modules on the objective material is variously controlled.

Accomplishments

- IPR : Imprinting Apparatus with Independently Actuating Separable Modules (EP1716588, US007202935B2)
- More than 7 SCI papers related to the technology including 'Key Engineering Materials' and 'Microelectronics Engineering'

