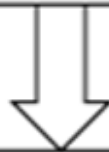


S110: During the thin film deposition on a wafer, monitor the heating power change rate $\Delta P / P_0$ of each heating area on a heating tray in real time, where ΔP is the heating power variation of the heating area, P_0 is the heating power of the heating area in the initial state; the heating tray includes at least two heating areas, each heating area is in a set constant temperature control state, the wafer is arranged on the at least two heating areas, and the wafer has a wafer area corresponding to each heating area.



S120: Determine whether the corresponding wafer area is detached from the heating tray according to the heating power change rate $\Delta P / P_0$.

FIG.1

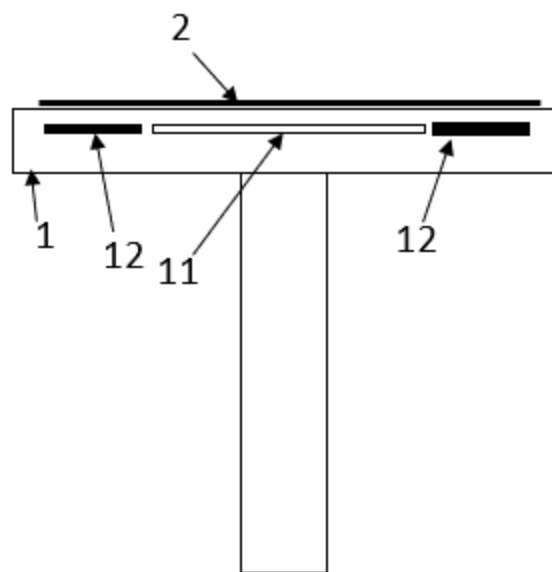


FIG.2

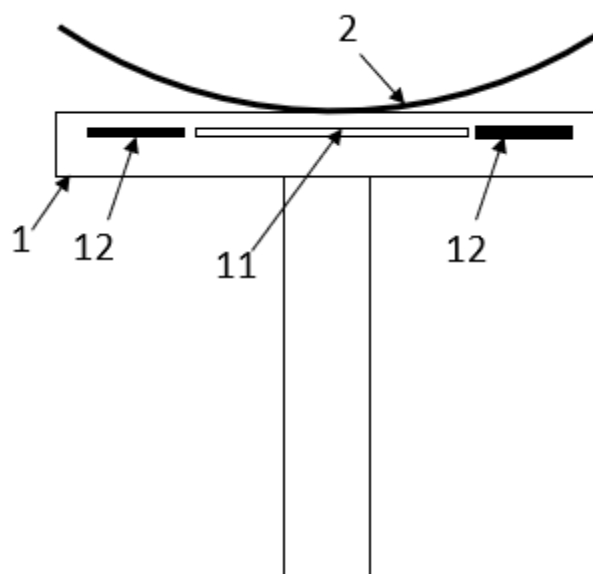


FIG.3

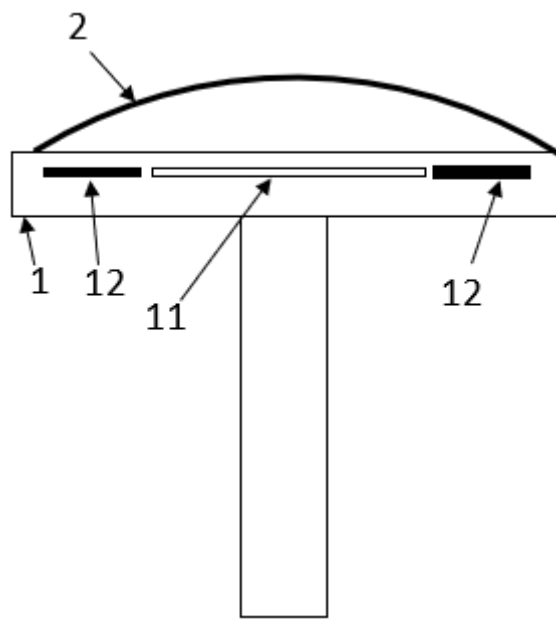


FIG.4

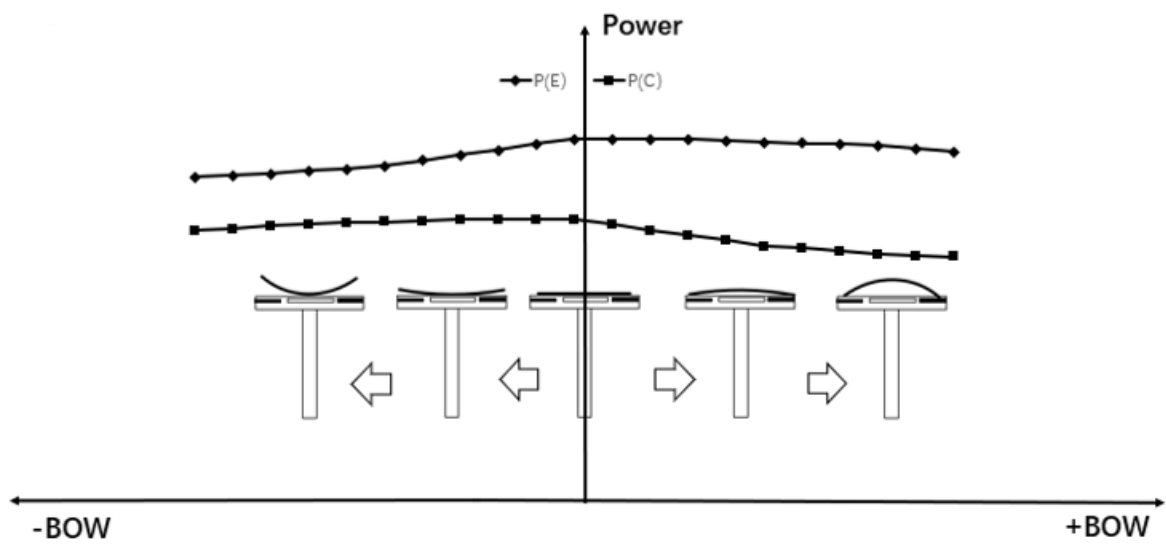
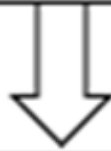


FIG.5

S210: During the thin film deposition on a wafer, monitor the wafer warpage variation ΔBOW in real time.



S220: If the wafer warpage variation ΔBOW exceeds a preset threshold, determine process conditions that need to be changed according to a mapping relationship between the wafer warpage variation ΔBOW and the process conditions, and process the wafer using the changed process conditions, so that the wafer warpage is controlled within a target warpage range.

FIG.6

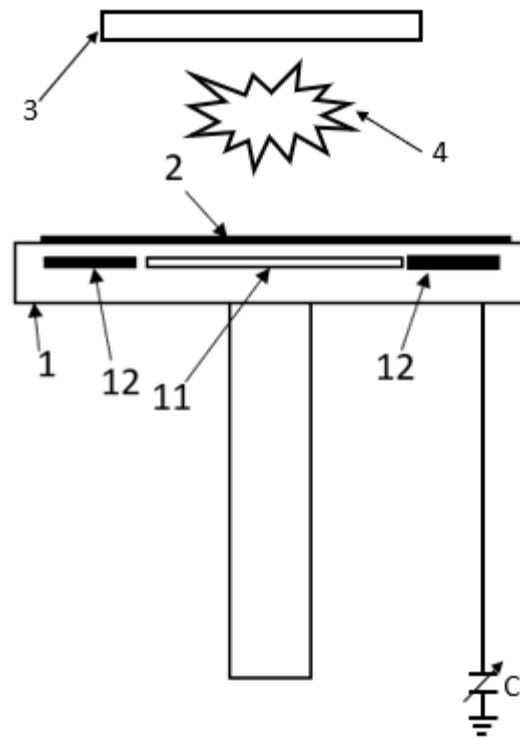


FIG.7

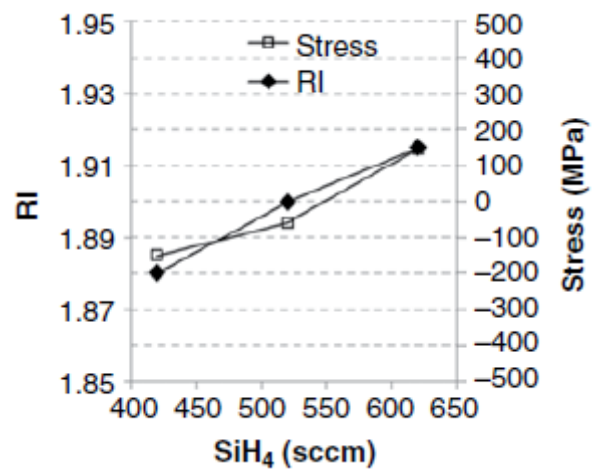


FIG.8

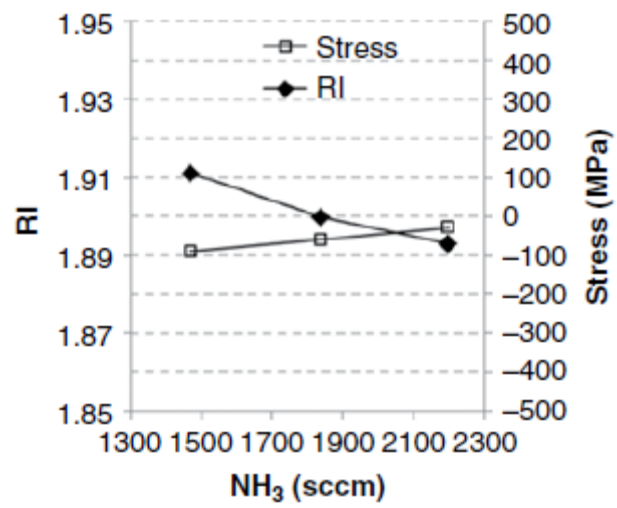


FIG.9

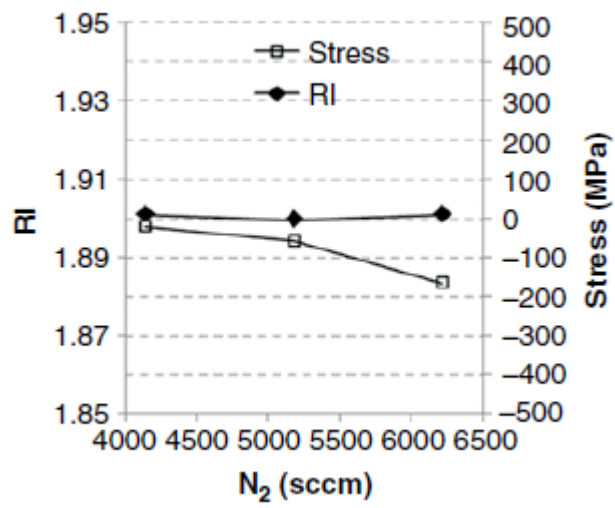


FIG.10

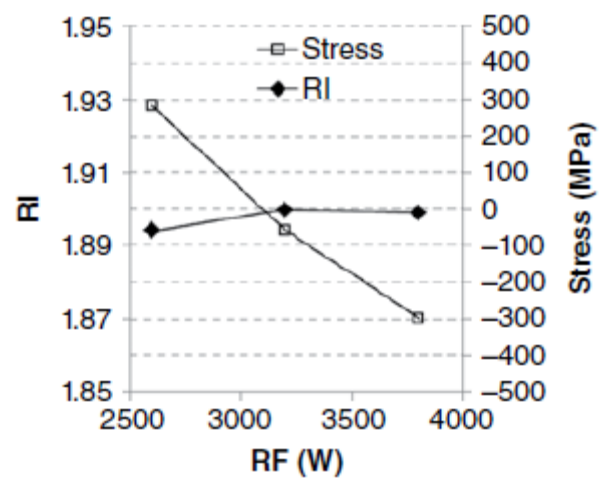


FIG.11

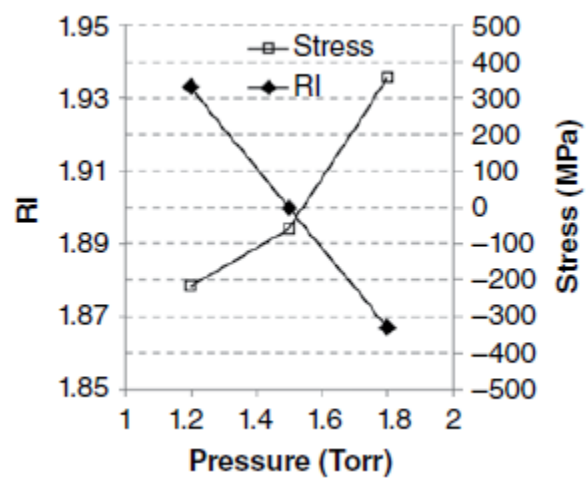


FIG.12

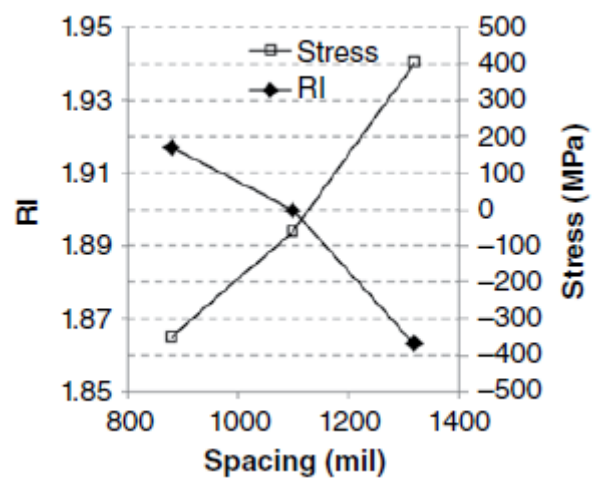


FIG.13