

Modeling of a glass RTP system and its application

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The glass thin-film transistor backplane is one of key parts in the flat panel display such as the LCD and OLED. Furnaces have been used for annealing of the glass backplane so far, but for better quality of glass, RTP (Rapid Thermal Processing) is adopted to the industry which has long been employed to wafer manufacturing industry.

Developing fundamental model of RTP system is required an essential step for it to be commercially applied since the model plays vital role in the control system design as well as equipment design.

RTP system model for wafer manufacturing has been studied a lot. However, for the inherent difference between glass and wafer and the configuration of the equipment, new model development is required.

In this research, glass RTP system model is developed by several experiments that are needed and some applications of model are presented such as design analysis and model-based control simulation.