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Investigation of micro-particle deposition on the glass substrate and its application of AOI performance verification

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keywords: Particle deposition, standard contamination, defect detection, AOI, Display, glass wafer

In this study, we investigate micro-particle deposition on the glass substrate for Automatic Optical Inspection (AOI) testing. [1] For this purpose, particle deposition experiment and simulation of particle trajectory were performed. And number of deposition particles were confirmed using an AOI. We investigated the particle deposition efficiency by theory, CFD and experiment. From these, the correlation between the voltage and flow rate and particle deposition was explored. There are several deposition conditions and we can fabricate standard contamination glass. [2][3]

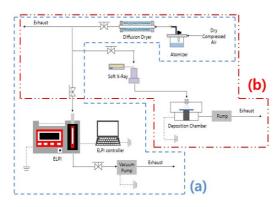


Fig.1. Schematic of Experiment (a)measurement particle number concentration (b) particle deposition on the glass substrate

감사의 글

이 연구는 2020년도 정부(산업통상자원부)의 재원으로 한국산업기술진흥원의 지원을 받아 수행된 연구임 (P0008458, 2020년 산업혁신인재성장지원사업)

참고문헌

References

- [1] S. Kang, M. Lee, and H. Park, "Development of AOI System for Defect Inspection of Patterned TFT-LCD Panels Using Adjacent Patter Comparison and Border Expansion Algorithms", Journal of Institute of Control, Robotics and Systems (2008) 14(5):444-452
- [2] Y. Cho, S. Hong, S. Lee, J. Yang, S. Chae, and T. Kim, "Investigation of a Standard Particle Deposition System on Wafer Surface and Its Application to Wafer Cleaning", ECS Journal of Solid State Science and Technology (2019) 8(12):768-77
- [3] William C. Hinds, Aerosol Technology, 2nd ed., Wiley- interscience, 2012