Abstract Submitted
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Particle-in-cell simulations for the effect of target erosions on the sputtering yield of a DC magnetron sputtering system YOUNG HYUN JO, HEESUNG PARK, Pusan National University, MIN YOUNG HUR, Samsung Electronics Company, Ltd., HAE JUNE LEE, Pusan National University — The DC magnetron sputtering is a standard sputtering method which has good deposition film quality in various coating processes for conductor targets even at low temperature. The deposition profile of the DC magnetron sputtering system depends on the sputtering yield profile which is directly related to the ion incidence from plasmas. Therefore, the way to control the energy and angle distributions of incident ions (IEAD or IEADF) is a key issue to get a better deposition profile. It was revealed in the previous study [1] that gas pressure dominantly affects the IEADF. However, there are no information of the effect of target erosions, though it is important to know the lifetime of the target during the deposition process. In this presentation, the change of the properties in the deposition process is discussed based on the analysis of variation of IEADF and plasma characteristics using particle-in-cell simulations. [1] M. Y. Hur, S. Oh, H. J. Kim, and H. J. Lee, Appl. Sci. Converg. Technol. **27**, 19-22 (2018)

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