

ペロブスカイト太陽電池におけるペロブスカイトアンダー層の影響

Understanding the influence of under layer in Perovskite Solar Cells

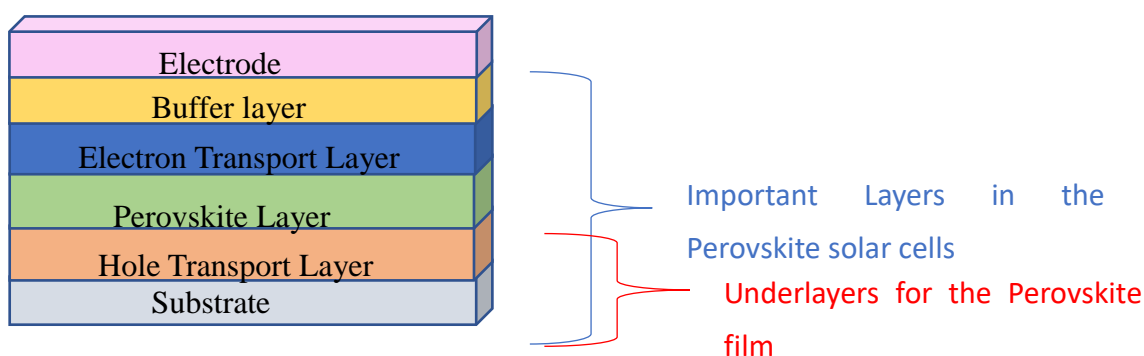
山梨大¹, 物質・材料研究機構² ○(D) Namrata Pant², 柳田真利^{1,2}, 白井康裕², 宮野健次郎²

Yamanashi Univ.¹, NIMS², ° Namrata Pant¹, Masatoshi Yanagida^{1,2}, Yasuhiro Shirai²,

Kenjiro Miyano²

E-mail: g17dg004@yamanashi.ac.jp

Perovskite solar cells have emerged out to be the most rapidly progressing solar cells in the history of photovoltaic research.¹ Undoubtedly, the perovskite absorber is the hero of the device structure, with excellent optical and electronic properties. But the different layers of the device have a significant impact on the overall performance of the solar cell. The study of these layers may provide answers to many existing problems, like low stability, reproducibility, low fill factor etc, associated with the device.^{2, 3} We have deposited the perovskite film over 3 different layers: NiOx, ITO and glass(SiO₂) by spin coating, and tried to investigate the influence of different under layers on the device performance, by correlating the optical and photovoltaic properties. This may be further useful to understand the phenomenon at the interfaces, which are directly influenced by the under layer of the perovskite film.



Perovskite Solar Cell device structure

References

1. J.-P. Correa-Baena, A. Abate, M. Saliba, W. Tress, T. Jesper Jacobsson, M. Graetzel and A. Hagfeldt, *Energy Environ. Sci.*, 10, 710-727(2017)
2. K. Ishioka, B. G. Barker, Jr., M. Yanagida, Y. Shirai and K. Miyano, *J. Phys. Chem. Lett.*, 8, 3902-3907(2017)
3. D. B. Khadka, Y. Shirai, M. Yanagida, J. W. Ryan and K. Miyano, *J. Mater. Chem. C*, 5, 8819-8827(2017)