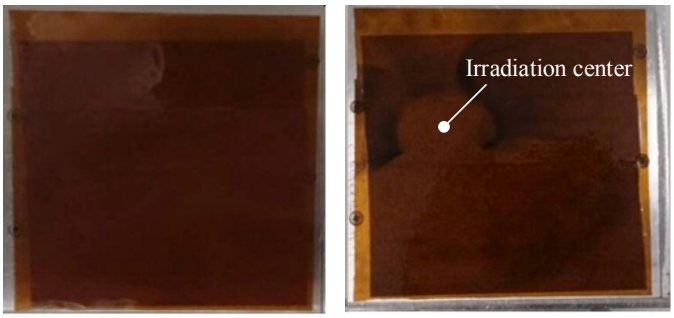
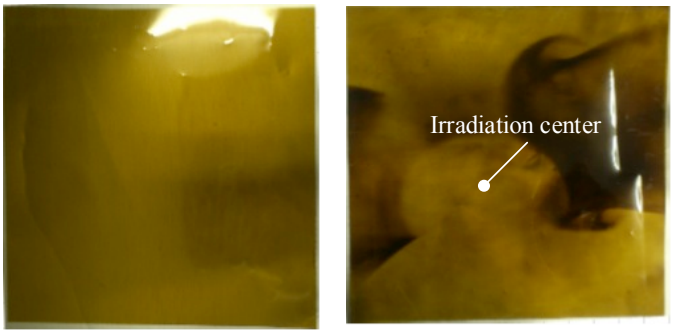
(Abstract No# 190)



a-1 Non-irradiated a-2 Irradiate

a) PI 1



b-1 Non-irradiated b-2 Irradiate

b) PI 2

Fig.7. Photo image of measurement sample before and after irradiation

Next, the differential of the quantum efficiency between irradiated and non-irradiated samples on PI 1 and PI 2 was compared. The quantum efficiency on irradiated samples of PI 1 is higher than PI 2. Therefore, we thought that many levels were formed in the forbidden band of PI 1 compared with PI 2. Therefore, the quantum efficiency of irradiated PI1 is higher than PI 2. However, concerning the quantum efficiency of 1832.3 nm on PI 1, we observed the different value from LDLS and DL. We need more investigation to solve the phenomenon.

IV. CONCLUSION

we irradiated the electron beam with the condition of equivalent dose as one year on GEO and measured the PE on the irradiate sample. As a result, we confirmed that PE of irradiate sample is larger than non-irradiated sample. Further, it is confirmed that the differential of PE between irradiate and non-irradiated sample is different on each material. We considered that the amount of PE is increased due to the created new localized level between HOMO and LOMO by the electron aging. And number and energy level of those new created localized level are different on each samples.

It is necessary to perform same measurement by other samples from now on.

REFERENCES

[1] C. Koons, J.E. Mazur, R.S. Selesnick, J.B. Blake, J.F. Fennell, J.L. Roeder and P.C. Anderson, “The Impact of the Space Environment on Space Systems”, Proceedings of the 6th Spacecraft Charging Technology Conference, Air Force Research Laboratory, pp.7-11, 1998.

[2] T. Muranaka, et al.:” Development of Multi-Utility Spacecraft Charging Analysis Tool (MUSCAT)”, IEEE Transactions on Plasma.