

## VII. CONCLUSION

The origin of Pinned Buried Photodiode was reviewed and its historical development efforts were discussed. As has been proposed in Hagiwara 1975 patent applications, a clever doping-engineering of the surface P+P hole accumulation region can also create the surface barrier electric field to enhance drastically the short-wave blue light sensitivity. It is concluded that this surface P+P doping-engineering is a key to create Pinned Buried PIN Photodiode Solar Cell with a better quantum efficiency.