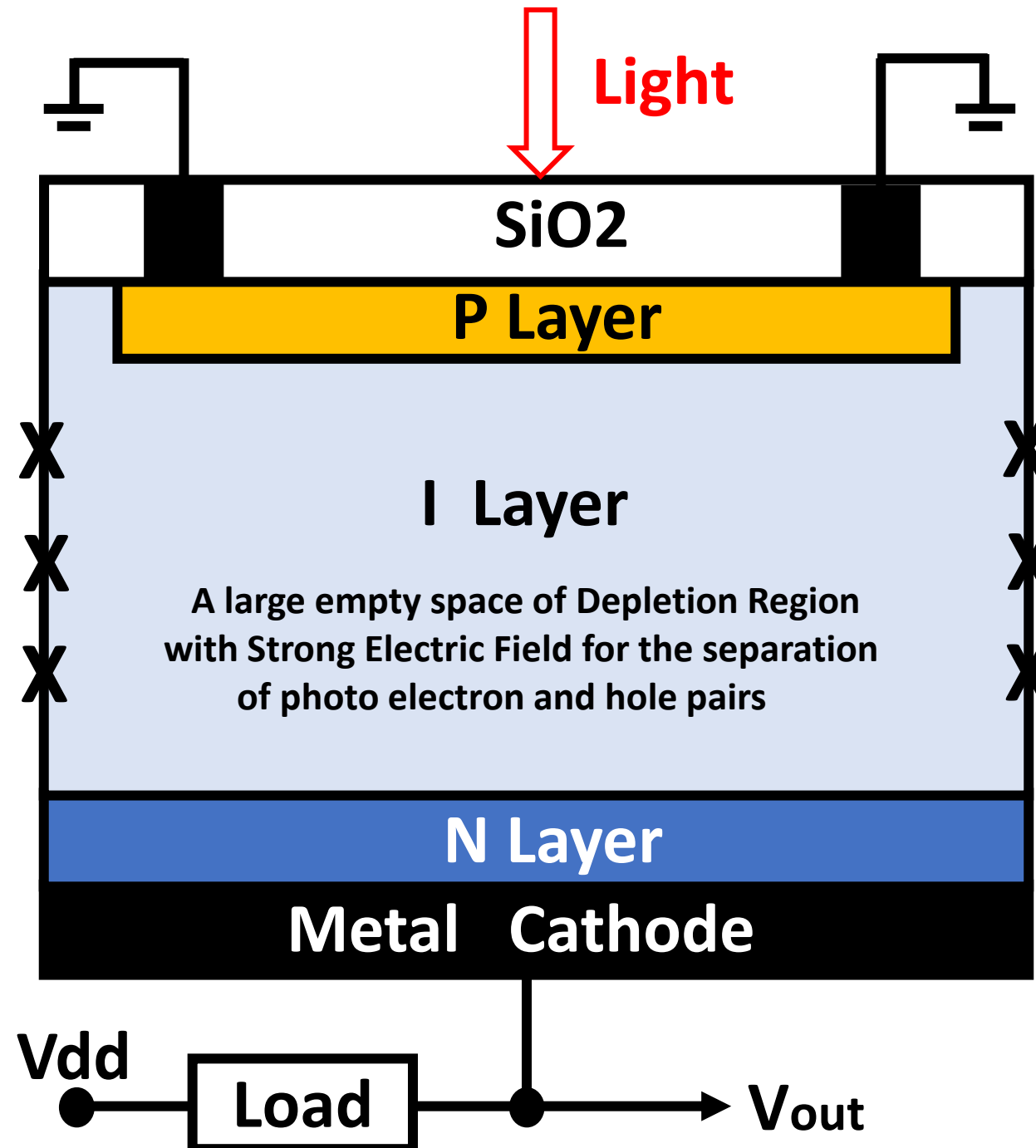


What is PIN Photodiode ?

PIN Photodiode is NOT Pinned Photodiode.

Yoshiaki Hagiwara
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PIN Photodiode is a PN junction diode that operates in reverse bias. Between the top heavily doped p-type layer and the bottom heavily doped n-type layer, a high resistivity intrinsic (I) layer is placed which has a large empty space of depletion region which is used in the reception of light.



PIN Photodiode itself does NOT have a dynamic memory.

The output current and the output voltage (V_{out}) is in the static operation mode.

PIN Photodiode is not a dynamic photo sensor.

This is a static photodiode, which needs an external memory capacitor in order to be used in dynamic circuits.

Cares must be taken for the Electric Field at Chip Edges that invite the undesired Chip Leakage Current.

For Solar Cells, the edge leakage is a critical factor.

For further details, please visit and read the papers reported by Hagiwara, at IEEE ICECET2021 on Dec 9, 2021

[ICECET2021_Paper61_html](#)

and

[ICECET2021_Paper75_html](#)