CLAIMS

1- A uni-travelling carrier photodiode comprising an absorption region of p-type doped material wherein the photodiode further comprises a first collector layer and second collector layer wherein the absorption region is located between the first collector layer and the second collector layer and comprises a first p-doped sub-region, a second p-doped sub-region, a first depleted section located between the first sub-region region and the first collector layer and a second depleted section located between the second sub-region and the second collector layer.

2- The photodiode of claim 1 wherein the absorption region is configured to generate electrons in response to an absorption of an incident light wherein some electrons diffuse toward the first collector layer and some other electrons diffuse toward the second collector layer.

3- The photodiode of claim 1 or claim 2 wherein a contact layer is made of p-type material, said contact layer being located within the absorption region.

4- The photodiode of any preceding claim wherein the absorption region comprises variation in a level of doping of the p-type material, such variation comprising a gradual p-doping configuration of said material.

5- The photodiode of any one of the claims 1 to 3 wherein the p-type material of the absorption region comprises a gradual composition.

6- An optical equipment comprising a photodiode according to any one of claims 1 to 5.

CLAIMS

1- A uni-travelling carrier photodiode comprising an absorption region wherein the photodiode further comprises a first collector layer and second collector layer wherein the absorption region is located between the first collector layer and the second collector layer and comprises a first p-doped sub-region, a second p-doped sub-region, a first depleted section located between the first sub-region region and the first collector layer and a second depleted section located between the second sub-region and the second collector layer and wherein the absorption region comprises variation in a level of doping or composition of the p-type material.

2- The photodiode of claim 1 wherein the absorption region is configured to generate electrons in response to an absorption of an incident light wherein some electrons diffuse toward the first collector layer and some other electrons diffuse toward the second collector layer.

3- The photodiode of claim 1 or claim 2 wherein a contact layer is made of p-type material, said contact layer being located within the absorption region.

4- The photodiode of any preceding claim wherein the absorption region comprises variation in a level of doping of the p-type material, such variation comprising a gradual p-doping configuration of said material.

5- The photodiode of any one of the claims 1 to 3 wherein the p-type material of the absorption region comprises a gradual composition.

6- An optical equipment comprising a photodiode according to any one of claims 1 to 5.