CLAIMS

1. A method for treating a stack, the stack comprising:

- a substrate of crystalline silicon;
- a first passivation layer of hydrogenated amorphous silicon, disposed on a first face of the substrate; and
- a first layer of n-doped amorphous silicon, disposed on the first passivation layer;

the method comprising a step of exposing the stack to electromagnetic radiation emitted by an electromagnetic radiation source, the first face of the substrate pointing to the electromagnetic radiation source, the electromagnetic radiation having at least one first wavelength between 300 nm and 550 nm and at least one second wavelength between 800 nm and 1100 nm, wherein the electromagnetic radiation has a spectral irradiance between 550 nm and 800 nm less than or equal to 0.04 $W/m^2/nm$.

2. The method according to claim 1, wherein the electromagnetic radiation consists of a first component and a second component, the first component being between 300 nm and 550 nm, and the second component being between 550 nm and 1100 nm, at least one of the first and second components being monochromatic.

3. The method according to any of the preceding claims, wherein the electromagnetic radiation has:

- a first irradiance measured over the wavelength range between 300 nm and 550 nm;
- a second irradiance measured over the wavelength range between 550 nm and 1100 nm; and
- a total irradiance measured over the wavelength range between 300 nm and 1100 nm;

the first irradiance being greater than 10% of the total irradiance.

4. The method according to claim 3, wherein the first irradiance is measured over the wavelength range between 400 nm and 550 nm.

5. The method according to any of the preceding claims, wherein the electromagnetic radiation comprises a first photon flux having a wavelength between 300 nm and 550 nm and a second photon flux having a wavelength between 550 nm and 1100 nm, the ratio of the first photon flux to the second photon flux being less than or equal to 70/30.

6. The method according to claim 5, wherein the electromagnetic radiation comprises a total photon flux equal to the sum of the first photon flux and the second photon flux, the total photon flux being greater than or equal to 8.95161×10^{21} photon/m^2/s.

7. The method according to any one of the preceding claims, wherein a temperature of the stack is less than 320°C during the step of exposing the stack to electromagnetic radiation.

8. The method according to any of the preceding claims, wherein the step of exposing the stack to electromagnetic radiation is continuous.

9. The method according to any one of claims 1 to 7, wherein the step of exposing the stack to electromagnetic radiation is performed in sequences.

10. The method according to any one of the preceding claims, wherein the stack further comprises a conductive transparent oxide layer disposed on the first layer of n-doped amorphous silicon.

11. The method according to any of the preceding claims, wherein the stack comprises:

- a second passivation layer of hydrogenated amorphous silicon, disposed on a second face of the substrate, the second face of the substrate being opposite to the first face of the substrate; and

- a second layer of p-doped amorphous silicon, disposed on the second passivation layer.

12. The method according to any one of claims 1 to 10, wherein the stack further comprises a second layer of p-type doped amorphous silicon, the second layer of p-doped amorphous silicon being also disposed on the first passivation layer.

13. A method for manufacturing a silicon heterojunction cell, comprising:

- forming a stack by depositing a first hydrogenated amorphous silicon passivation layer onto a first face of a crystalline silicon substrate and a first layer of n-doped amorphous silicon onto the first hydrogenated amorphous silicon passivation layer; and

- exposing the stack to electromagnetic radiation emitted by an electromagnetic radiation source, the first face of the substrate pointing to the electromagnetic radiation source, the

electromagnetic radiation having at least one first wavelength between 300 nm and 550 nm and at least one second wavelength between 800 nm and 1100 nm, wherein the electromagnetic radiation has a spectral irradiance between 550 nm and 800 nm less than or equal to 0.04 $W/m^2/nm$..

14. A method for treating a photovoltaic module, the photovoltaic module comprising at least two electrically connected silicon heterojunction photovoltaic cells, each silicon heterojunction photovoltaic cell comprising a stack, the stack comprising:

- a crystalline silicon substrate;

-a first passivation layer of hydrogenated amorphous silicon, disposed on a first face of the substrate; and

- a first layer of n-type doped amorphous silicon, disposed on the first passivation layer;

the method for treating the photovoltaic module comprising a step of exposing each stack to electromagnetic radiation emitted by an electromagnetic radiation source, each first face of the substrate pointing to the electromagnetic radiation source, the electromagnetic radiation having at least one first wavelength between 300 nm and 550 nm and at least one second wavelength between 800 nm and 1100 nm, wherein the electromagnetic radiation has a spectral irradiance between 550 nm and 800 nm less than or equal to 0.04 $W/m^2/nm$.