CLAIMS

1. A laterally deployable photovoltaic device, comprising: at least one movable plate on which a solar cell module is arranged, a rotation drive apparatus which fixedly connects the movable plate to a vehicle body, a height adjusting apparatus, and a flipping apparatus; wherein

the rotation drive apparatus comprises a fixed end and a drive end, and is secured to the vehicle body via the fixed end, the drive end of the rotation drive apparatus is fixedly connected to the movable plate, and the movable plate is driven by the rotation drive apparatus to rotate to a side of the vehicle body;

a fixed end of the flipping apparatus is fixedly connected to the vehicle body, and a flipping adjusting end of the flipping apparatus is fixedly connected to the movable plate, for adjusting an angle of the movable plate relative to the vehicle body; and

a fixed end of the height adjusting apparatus is fixedly connected to the vehicle body, and a height adjusting end of the height adjusting apparatus is fixedly connected to the movable plate, for adjusting a height of the at least one movable plate relative to the vehicle body, wherein the height adjusting apparatus comprises an elevating cylinder.

2. The laterally deployable photovoltaic device according to claim 1, wherein the rotation drive apparatus drives the movable plate to rotate to retract the movable plate from the side of the vehicle body.

3. The laterally deployable photovoltaic device according to any one of claims 1 to 2, further comprising: a fixed plate on which a solar cell module is arranged, wherein the rotation drive apparatus drives the movable plate to rotate to retract the movable plate from the side of the vehicle body to a position under the fixed plate.

4. The laterally deployable photovoltaic device according to any one of claims 1 to 2, wherein the number of the movable plate is one or more than one.

5. The laterally deployable photovoltaic device according to claim 4, wherein the more than one movable plate is arranged to overlap with each other after the rotation drive apparatus drives the movable plate to rotate to retract the movable plate from the side of the vehicle body.

6. The laterally deployable photovoltaic device according to claim 1, wherein the rotation drive apparatus is a motor.

7. A solar vehicle, comprising the laterally deployable photovoltaic device according to any one of claims 1 to 6, wherein the photovoltaic device is arranged on a roof of the solar vehicle.

8. The solar vehicle according to claim 7, wherein the roof of the solar vehicle is provided with a solar cell module.