CLAIMS

1. A vehicle door opening and closing device, comprising an active arm (10), a guide rail seat (20), and a driven mechanism (30); wherein

an active arm vehicle body end (11) of the active arm (10) is rotatably connected to a vehicle body, and an active arm vehicle door end (12) of the active arm (10) is rotatably connected to a vehicle door;

the guide rail seat (20) is fixedly mounted on the vehicle door, and the guide rail seat (20) is provided with a guide rail (21) that matches a predefined opening and closing trajectory of the vehicle door;

one end of the driven mechanism (30) is rotatably connected to the guide rail seat (20), and the other end of the driven mechanism (30) is rotatably connected to the vehicle body; and

the driven mechanism (30) is provided with a first sliding part, wherein the first sliding part is slidably connected to the guide rail (21);

wherein the driven mechanism (30) comprises a first driven arm (31) and a second driven arm (32) that are rotatably connected; wherein

an end of the first driven arm (31) away from the second driven arm (32) is rotatably connected to the vehicle body, and an end of the second driven arm (32) away from the first driven arm (31) is rotatably connected to the guide rail seat (20); and

the first sliding part is provided on the first driven arm (31);

the first sliding part comprises a first sliding shaft and a first position limiting end that are fixedly connected, the first sliding shaft is fixedly connected to the first driven arm (31), and the first position limiting end has a larger diameter than the first sliding shaft;

wherein a second sliding part is provided at an end of the first driven arm (31) close to the second driven arm (32), and a position limiting groove (321) that matches with the second sliding part is provided at an end of the second driven arm (32) close to the first driven arm (31); wherein

the second sliding part is rotatably connected to the position limiting groove (321), and a size of the position limiting groove (321) in a length direction is greater than an outer diameter of the second sliding part;

wherein the first sliding part is provided between the end of the first driven arm (31) away from the second driven arm (32) and the second sliding part;

wherein the guide rail (21) is S-shaped, and the position limiting groove (321) is strip-shaped;

wherein during an opening process of a rear vehicle door, an end of the rear vehicle door

close to a front vehicle door first performs translational motion and then continues to swing until the rear vehicle door fully opens according to the predefined opening and closing trajectory of the vehicle door.

2. The vehicle door opening and closing device according to claim 1, wherein the second sliding part comprises a second sliding shaft and a second position limiting end that are fixedly connected, the second sliding shaft is fixedly connected to the first driven arm (31), and the second position limiting end has a larger diameter than the second sliding shaft.

3. The vehicle door opening and closing device according to claim 1, comprising at least two of the guide rail seats (20) and at least two of the driven mechanisms (30), and the at least two of the guide rail seats (20) are provided respectively corresponding to the at least two of the driven mechanisms (30).

4. The vehicle door opening and closing device according to claim 1, further comprising: a driving mechanism, wherein the driving mechanism is electrically connected to a vehicle controller; and

the driving mechanism is in transmission connection with the active arm (10).

5. A vehicle, comprising the vehicle door opening and closing device according to any one of claims 1-4.