Electric Skateboard with Disk Brakes and Bluetooth Remote Control

Yan, Ming

Cai, Weizhen

[Research purpose] Skateboarding World Day falls on June 21 every year. The skateboard is divided into two categories: (1) Trick Board; (2) Long board. The latter is more popular. For the sake of its security of the extreme sports, our project is aimed at researching into the design of the force and braking street skateboard driving. [Research procedures] The project mainly involves research on six-generation skateboard. Each latter generation makes a more significant improvement in technical innovation than the previous one. For the fourth generation, we made brushless double drive, Bluetooth remote control and disc brakes which work through foot stepping and line transmitting, safer disc brakes. For the fifth-generation, we made oil pressure disc brakes; thus, we changed the braking transmission principle. As for the sixth-generation skateboard, we made wheels hubs motor, the carbon fiber surface integration technology. And we will achieve wheels hubs brake and Bluetooth control brake in our research, we drew 3D for modeling, and also modified the program repeatedly. Moreover, we headed for the National Auto Test Field to have it tested until finally the board reached the agreed security standard, thus it has been completed like this today. [Research data] 1. Voltage: 24 V 2. The output power: 750w-1500 w 3. The highest speed: 20 km/h - 40 km/h 4. Cruising distance: 20 km -23 km 5. Braking distance: 5 m- 6 m at the speed of 20 km/h 6. Load capacity: 100 kg or so [Research conclusions] The skateboard turns out a success, meeting the expected requirements in theory by creating the wheels hubs motor, the carbon fiber surface integration technology. Thus we’ve efficiently solved the problems like the board power and bulk, braking, turning a corner, etc.

Awards Won:

Third Award of $1,000