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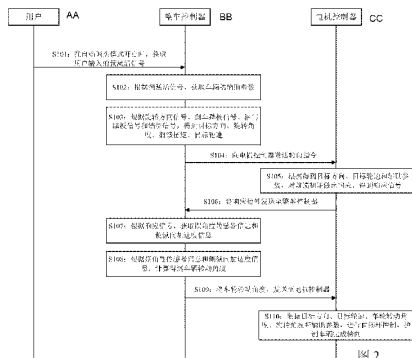
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(54) Title: VEHICLE STEERING CONTROL METHOD AND APPARATUS, VEHICLE, AND STORAGE MEDIUM

(54) 发明名称: 车辆转向的控制方法、装置、车辆和存储介质



S101 When an automatic U-turn mode is activated, acquire a pre-activation signal input by the user
S102 Acquire auxiliary parameters of a vehicle on the basis of the pre-activation signal
S103 On the basis of a rotation direction signal, a brake pedal signal, an accelerator pedal signal, and a gear position signal, obtain a target direction, a rotation angle, a feedforward torque, and a target wheel speed
S104 Send a steering instruction to the motor controller
S105 On the basis of the obtained target direction, target wheel speed, and auxiliary parameters, respond to the feedforward torque to obtain a response signal
S106 Send the response signal to the vehicle controller
S107 On the basis of the response signal, acquire swing angle sensor information and lateral and longitudinal acceleration information
S108 On the basis of the swing angle sensor information and the lateral and longitudinal acceleration information, calculate a wheel turning angle
S109 Send the wheel turning angle to the motor controller
S110 On the basis of the target direction, the target wheel speed, the wheel turning angle, the rotation angle, and the auxiliary parameters, perform closed-loop control, and control the vehicle to finish steering
AA User
BB Vehicle controller
CC Motor controller

(57) Abstract: The present application provides a vehicle steering control method and apparatus, a vehicle, and a storage medium. When an automatic U-turn mode is activated, a vehicle controller acquires auxiliary parameters of a vehicle on the basis of a pre-activation signal input by a user, and generates a target direction, a rotation angle, a feedforward torque, and a target wheel speed, and then sends a steering instruction to a motor controller. The motor controller responds on the basis of the feedforward torque to obtain a response signal, and sends the response signal to the vehicle controller. The vehicle controller acquires, on the basis of the response signal, swing angle sensor information and lateral and longitudinal acceleration information, calculates a wheel turning angle, and sends the wheel turning angle to the motor controller. On the basis of the target direction, the target wheel speed, the wheel turning angle, the rotation angle, and the auxiliary parameters, the motor controller performs closed-loop control, and controls the vehicle to finish steering. The application achieves automatic U-turns with a zero turning radius for vehicle steering, so that vehicle steering is more flexible, accurate, and efficient, rotation errors are reduced, and millisecond-level drive control is achieved.

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本国际公布:

— 包括国际检索报告(条约第21条(3))。

(57) 摘要: 本申请提供一种车辆转向的控制方法、装置、车辆和存储介质。在自动调头模式开启时, 整车控制器根据用户输入的预激活信号, 获取车辆的辅助参数, 并生成目标方向、旋转角度、前馈扭矩、目标轮速, 然后向电机控制器发送转向指令。电机控制器根据前馈扭矩做出响应, 得到响应信号, 并发送至整车控制器。整车控制器根据响应信号, 获取摆角度传感器信息和侧纵向加速度信息计算得到车轮转动角度并发送至电机控制器。电机控制器根据目标方向、目标轮速、车轮转动角度、旋转角度和辅助参数, 进行闭环控制, 控制车辆完成转向。实现了车辆自动调头0转弯半径转向, 使得车辆转向更加灵活, 精准高效, 并且减少了旋转误差, 实现了毫秒级的驱动控制。