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- (81) 指定国 (除另有指明, 要求每一种可提供的国家保护): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM,

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(54) Title: METHOD AND SYSTEM FOR DETECTING FREQUENT CHANGES OF LANES OF VEHICLE IN DRIVING

(54) 发明名称: 一种检测车辆频繁变道行驶的方法及系统

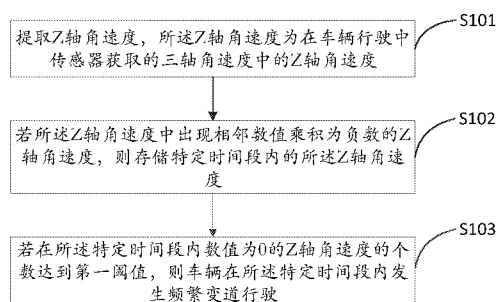


图 1 / FIG. 1

S101 EXTRACT Z-AXIS ANGULAR SPEEDS, THE Z-AXIS ANGULAR SPEEDS BEING Z-AXIS ANGULAR SPEEDS AMONG THREE-AXIS ANGULAR SPEEDS OBTAINED BY A SENSOR DURING THE PROCESS OF VEHICLE DRIVING

S102 IF THERE IS A Z-AXIS ANGULAR SPEED OF WHICH THE PRODUCT OF ADJACENT VALUES IS NEGATIVE AMONG THE Z-AXIS ANGULAR SPEEDS, STORE THE Z-AXIS ANGULAR SPEED WITHIN A SPECIFIC TIME PERIOD

S103 IF THE NUMBER OF THE Z-AXIS ANGULAR SPEEDS OF WHICH THE VALUES ARE ZERO WITHIN THE SPECIFIC TIME PERIOD REACHES A FIRST THRESHOLD, DETERMINE THAT A VEHICLE IS DRIVEN IN A FREQUENT-LANE-CHANGING MANNER WITHIN THE SPECIFIC TIME PERIOD

(57) Abstract: A method and system for detecting frequent changes of lanes of a vehicle in driving. The method comprises the following steps: extracting Z-axis angular speeds, the Z-axis angular speeds being Z-axis angular speeds among three-axis angular speeds obtained by a sensor during the process of vehicle driving; if there is a Z-axis angular speed of which the product of adjacent values is negative among the Z-axis angular speeds, storing the Z-axis angular speed within a specific time period; and if the number of Z-axis angular speeds of which the values are zero within the specific time period reaches a first threshold, determining that a vehicle is driven in a frequent-lane-changing manner within the specific time period. Values of Z-axis angular speeds are extracted, values of Z-axis angular speeds of which the product of adjacent Z-axis angular speed values is negative are stored, the stored Z-axis angular speeds within the specific time period are analyzed, and whether the vehicle is driven in the frequent-lane-changing manner is determined by determining the number of the Z-axis angular speeds of which the values are zero, so that the travel posture of the vehicle is actively monitored, driving behaviors are regularized, and traffic accidents are reduced.

(57) 摘要:

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ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US,
UZ, VC, VN, ZA, ZM, ZW。

IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT,
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本国际公布:

— 包括国际检索报告(条约第 21 条(3))。

一种检测车辆频繁变道行驶的方法及系统, 所述方法包括如下步骤: 提取 Z 轴角速度, 所述 Z 轴角速度为在车辆行驶中传感器获取的三轴角速度中的 Z 轴角速度; 若所述 Z 轴角速度中出现相邻数值乘积为负数的 Z 轴角速度, 则存储特定时间段内的所述 Z 轴角速度; 若在特定时间段内数值为 0 的 Z 轴角速度的个数达到第一阈值, 则车辆在所述特定时间段内发生频繁变道行驶。通过提取 Z 轴角速度值, 对出现相邻 Z 轴角速度数值乘积为负值处的 Z 轴角速度值进行存储, 对存储的特定时间段的 Z 轴角速度进行分析, 通过判断 Z 轴角速度的数值为 0 的个数来判断车辆是否频繁变道行驶, 实现对车辆行驶姿态主动监控, 规范驾驶行为, 降低交通事故。