Title: DEVICE AND PROCESS FOR CONTROL OF CORNERING LIGHTS IN MOTOR VEHICLES

Abstract: The invention refers to a device for control of cornering lights (91, 92) of motor vehicles. The purpose of the invention is to ensure appropriate operation of said cornering lights (91, 92) in accordance with each existing legislation and in particular without any need on mounting additional sensors into the vehicle, by which increasing of expenses are essentially reduced, the need about providing some additional space within the vehicle and also any essentially increasing of the risk of damages may be avoided. To this aim said device comprises a processing unit (3), which is adapted to receive data from the anti-skid unit (4) for preventing vehicle wheels (11, 12, 21, 22) from sliding during braking or acceleration, namely each relevant data about each angular velocity (ωi) of at least one inward wheel (11) and the angular velocity (ω2) of at least one outward wheel (12) of a turning vehicle. Said unit (3) is furthermore adapted to determine each difference (Δω) between said angular velocities (ωi, ω2) in order to be able to control automatically activation or deactivation of each corresponding cornering light (91, 92) when said difference (Δω) between said angular velocities (ωi, ω2) exceeds a pre-determined value and when also each desired pre-determined conditions are fulfilled. The invention also includes a process for control of said cornering lights (91, 92) in accordance with the functional concept of said device.

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The invention relates to a device for control of cornering lights in motor vehicles, as well as to a process for control of such lights in accordance with each existing rules, according to which at present either using i.e. mounting or activation of such lights as a non-compulsory equipment of motor vehicles is already allowed, although the use of such lights is still permitted exclusively whenever the vehicle is turning and the direction indicator light is activated, and when further the velocity of vehicle is inferior with respect to a pre-determined value, which is at present normally 40 km/h, and still further when a steering mechanism is activated, and also, when the visibility is essentially reduced, i.e. in the dark or when the weather is foggy. A pair of such lights is normally mounted onto the forward portion of the vehicle either in the area of the vehicle body or a fender or a bumper, wherein such cornering light excels in a relatively wide angle of the light beam in the horizontal plane, extending either symmetric or asymmetric with respect to the longitudinal axis of the light bulb, and when desired such light may also be pivoted the vertical axis, by which at least a reflector or a complete casing thereof may be deflected when the vehicle is turning, so that the complete area in front of the vehicle is then illuminated, which is otherwise insufficiently illuminated by means of any other lights or is not illuminated at all.
In accordance with the International Patent Classification such an invention concerns performing operations and transporting, namely arranging of optical signaling and lighting devices in vehicles in correlation with steering position.

The purpose of the invention is to ensure appropriate device for control of cornering lights, namely for activation of each inner cornering light of a turning vehicle, which should be enabled only when all pre-determined conditions are fulfilled, in particular when the vehicle is turning left or right by simultaneously activated direction indicator and the velocity below a pre-determined value and the steering mechanism is simultaneously activated, while at the same time also visibility must be reduced due to the dark or fog, by which said control of cornering lights should be feasible without mounting any additional sensors into the vehicle, no additional space within the vehicle will be required and the risk of damages should not be increased. The purpose of the invention is also to create appropriate process for control of said cornering lights.

As proposed in US 3,567,918, activation of a cornering lights for the purposes of illuminating an area in front of the vehicle, which is otherwise dark, may be achieved by means of a device, which operates on the principle of centrifugal force. Said device comprises a sensor in form of a container or a casing, which consists of a central portion and two arms, which protrude in opposition directions transversally with respect to a driving direction. Said container is filled with a contacting fluid, while each of said arms comprises an electric connector, which protrudes towards the container. When the vehicle is moved straight, said fluid is present within the central portion outside of any contact with said connections. When the vehicle is turning and the centrifugal force occurs, said fluid reaches a corresponding electric connection, by which appropriate electric circuit is established, by which the corresponding cornering light is activated. Each displacement of said fluid essentially depends on each available velocity of the vehicle and on radius of turning the vehicle, but at the same time also on several other influences like e.g. inertia forces, vibrations or the like.
When the vehicle is turned slightly, the cornering light is activated after a certain time period, when the vehicle is already turning, while in the very beginning of turning the space in front of the vehicle is insufficiently illuminated. On the other hand said fluid may also start oscillating in certain circumstances, which may then lead to alternatively activation and deactivation of both cornering lights, which are available on both sides of the vehicle. In common, the cornering light may even be activated during avoiding an obstacle on a roadway, although the vehicle is generally moving in a straight direction and is e.g. not turning.

Activation and deactivation of cornering lights is also disclosed in DE 197 19 573 B4, where a fog light is activated when the vehicle is turning, however only when the velocity of the vehicle is below a pre-determined value. Activation is allowed as soon as an additional sensor has detected that the vehicle is turning. Said sensor may e.g. detect movements of a steering rod or a steering mechanism, angular velocity or a centrifugal force or deflection from a desired direction, which may also be used for the purposes of detection or control of stability in each desired direction. In order to ensure appropriate functioning of such a device, an additional sensor must unavoidable be mounted into a vehicle, which results in additional expenses and also in several other requirements, and in particular some additional space must be ensured and adapted for such purposes within the vehicle. In addition to that, each additional part, in particular such sensible part, always result in certain increasing of risk with respect to possible damages and operational reliability.

Still further WO 2005/035307 A1 discloses a device and process for control of cornering lights, by means of which a cornering light of a turning vehicle is controlled as a stationary light within a pre-determined velocity range, while in another velocity range the same cornering light is controlled as a deflecting light, which comprises a casing or at least a reflector, which is then pivoted around the vertical axis. In each of these operation modes the cornering lights is controlled on the basis of a signal obtained from the speedometer and simultaneously also on the basis of a signal
obtained from the sensor for detecting if the vehicle is turning. Said speedometer is generally available in each vehicle, while the sensor for detecting if the vehicle is turning is again an additional sensor, which must be mounted into the vehicle for this purpose and is normally mounted adjacent to the steering rod or thereon in order to detect each rotation of said steering rod, which results from rotation of the steering wheel. Deficiencies resulting from said solution are practically the same as those, which have been discussed in relationship with DE 197 19 573 B4.

The present invention relates to a device for control of cornering lamps in motor vehicles, namely for control of lights, which are intended to ensure a supplemental illumination of circumferential area of each vehicle, which is otherwise insufficiently illuminated by means of any other lights or is not illuminated at all. Such device generally consists of a processing unit, which is intended for automatically activating or deactivating of each cornering light and moreover comprises at least one input port, which is adapted for receiving signals related to activation of direction indicators, and also another input port, which is adapted for receiving signals related to illumination of at least one circumferential area of the vehicle. On such a basis said cornering lights are then controlled by means of said processing unit, by which also said signals received via said input ports are taken into consideration.

According to the invention such control device is proposed, in which said processing unit comprises a still further input port, which is linked to an input unit, which enables measuring of each angular velocity of at least one inward wheel and each angular velocity of at least one outward wheel of a turning vehicle, and belongs to each available anti-skid unit, which is used for preventing vehicle wheels from sliding. Said input unit is operating independently with regard to control of said anti-skid unit intended for preventing vehicle wheels from sliding. Said processing unit is adapted for receiving signals and data about each relevant measured angular velocities and in particular about the difference between said angular velocities, in order to be able to control automatically activation or deactivation of each corresponding cornering light,
preferably each corresponding inward cornering light of the turning vehicle, on the basis of considering said difference between said angular velocities and also each desired pre-determined conditions related to signals, which are received via any other port.

Moreover, said processing unit is adapted for either permanently or periodically receiving of data related to each measured difference between the angular velocity of at least one inward wheel and the angular velocity of at least one outward wheel of a turning vehicle.

Still further said processing unit is preferably also adapted for calculating a velocity of the vehicle on the basis of each measured angular velocity of at least one inward wheel and each measured angular velocity of at least one outward wheel of a turning vehicle and on such a basis also for activation or deactivation of each corresponding cornering light, depending on such calculated velocity of the vehicle.

Said processing unit is adapted for activation or deactivation of each corresponding cornering light on the basis of each measured angular velocity of at least one inward wheel and each measured angular velocity of at least one outward wheel of a turning vehicle by simultaneously considering signals available also on the other input ports, by which the signal on one of available input ports preferably is present only when a direction indicator is activated, and the signal on another input port is available only when at least one front light of the same vehicle is activated and/or when at least one position light of the same vehicle is activated and/or when at least one fog light is activated an/or when said signal is received from at least one unit, which is adapted for measuring illumination in the area outside the vehicle.

The invention also relates to a process for control of cornering lights, which generally enables activation or deactivation, namely switching-on or switching-off said cornering lights, and when desired also pivoting of each desired light around the
vertical axis thereof in order to enable a pre-determined illumination of each desired area in front of corresponding vehicle or behind of said vehicle, which is otherwise by means of ordinary lights by turning the vehicle insufficiently illuminated or not illuminated at all, by which such control of said cornering lights is performed under consideration of corresponding pre-conditions, which in particular relate to the velocity of said vehicle and/or to previously activation of any other lights and/or to meteorological conditions in the circumferential area of said vehicle.

Such process is characterized by that the angular velocity of at least one inward wheel and the angular velocity of at least one outward wheel of a turning vehicle are measured permanently or periodically during any movement of said vehicle, and that a difference between said angular velocities is calculated permanently or periodically; by which an automatically activation of said cornering lights is enabled only when said difference between the angular velocity of at least one inward wheel and the angular velocity of at least one outward wheel of a turning vehicle exceeds a pre-determined value by simultaneously fulfilling the other pre-determined conditions. Preferably also the velocity of moving the vehicle in each desired direction is determined simultaneously with calculating said difference of angular velocities.

According to said process said cornering lights are activated only when said difference between the angular velocity of at least one inward wheel and the angular velocity of at least one outward wheel of a turning vehicle exceeds a pre-determined value and the vehicle velocity is below a pre-determined value.

According to a further variation of said process said cornering lights are activated only when said difference between the angular velocity of driving wheels of a turning vehicle exceeds a pre-determined value and the velocity of the vehicle is below a pre-determined value, while at the same time also signals must be present on the input ports of the processing unit, which indicate that the direction indicator is activated and that illumination of the circumferential area of the vehicle is sufficiently low.
According to a still further variation of said process said cornering lights are activated only when said difference between the angular velocity of at least one inward wheel and the angular velocity of at least one outward wheel of a turning vehicle exceeds a pre-determined value and the velocity of the vehicle is below a pre-determined value, while at the same time also signals must be present on the input ports of the processing unit, which indicate that the direction indicator is activated and that illumination of the circumferential area of the vehicle is sufficiently low i.e. that previously the vehicle front light or fog lights have already been activated.

The invention will now be described in more detail on the basis of an embodiment, which is shown in the attached drawing, where

Fig. 1 schematically presents a device for control of cornering lights according to the invention;

Fig. 2 is a schematic bottom view of a vehicle when turning;

Fig. 3 is a graphic presentation of vehicle velocities when turning;

Fig. 4 similar like Fig. 3 shows a graphic presentation of angular velocities of vehicle driving wheels, when the vehicle is turning; and

Fig. 5 similar like Figs. 3 and 4 shows a graphic presentation of differences between angular velocities of each driving wheel of said vehicle when turning.

A device for control of cornering lights 91, 92 comprises a processing unit 3, which is furnished with input ports 31, 32, 33, namely in the shown embodiment with an input port 31, which is adapted for transmission of a signal related to control of direction indicators, an input port 32 for transmission of a signal related to operation of a light sensor i.e. a switch for control of at least one of the existing vehicle lights, especially front lights an/or fog lights and/or any other lights, as well as with an input port 33, which is adapted for transmission of a signal, which relates to a difference of angular velocities (Δω) obtained from the anti-skid unit 4, by means of which the forward driving wheels 11, 12 or the rearward wheels 21, 22 are prevented from sliding whenever the vehicle is exposed to braking or acceleration.
In order to simplify a further description and also for the purposes of easier and better understanding, only two driving wheels 11, 12 will be introduced in the further discussions, by which the angular velocities $\omega_1$ and $\omega_2$ thereof are identical to each other when the vehicle is stopped or also when said vehicle is moving in a straight direction 5 according to Fig. 1, but are different always when the vehicle is turning.

Said anti-skid unit 4 for control of wheels 11, 12, 21, 22 is deemed to be commonly available, since it is nowadays mounted into practically each modern vehicle; said unit as such already includes appropriate sensors 41, 42 adapted for detecting and measuring of angular velocities $\omega_1$ and $\omega_2$ of driving wheels 11, 12, and moreover also appropriate processing unit 40, which then controls via a corresponding control unit 41 - depending on each detected angular velocities $\omega_1$ and $\omega_2$ - operation of each corresponding brake system 6 of driving wheels 11, 12, and/or of a corresponding accelerating system, which is however not shown in the drawings. In this particular embodiment said processing unit 40 is supplied with each relevant data about the difference $\Delta \omega$ between each corresponding angular velocities $\omega_1$ and $\omega_2$ of both driving wheels 11, 12 from the side of an input unit 43, and on such a basis a control valve 66 of a hydraulic circuit 60 is then controlled via said control unit 41 in order to increase or decrease the pressure of the hydraulic media within each of secondary circuits 61', 62' of the revolution control units 61, 62, by which in this particular appropriate braking intensity is determined. However, said signal related to each measured difference $\Delta \omega$ between each corresponding angular velocities $\omega_1$ and $\omega_2$ of both driving wheels 11, 12 is simultaneously transmitted from said input unit 43 of the anti-skid unit 4 also into the processing unit 3, which is adapted to control operation of cornering lights 91, 92. Whenever said difference $\Delta \omega$ between each corresponding angular velocities $\omega_1$ and $\omega_2$ equals zero, the vehicle is either stopped or moved in a straight direction. As soon as said difference $\Delta \omega$ between each corresponding angular velocities $\omega_1$ and $\omega_2$ is not zero, that naturally means that the vehicle is turning.
As shown in Fig. 2, each movement of the vehicle in each desired direction, which is deflected at the angle \( \phi \) with respect to said straight direction, then leads to a well-defined correlation between a vehicle velocity \( (v) \) and angular velocities \( \omega_1 \) and \( \omega_2 \) of both wheels 11, 12, which are moved in each desired time period along corresponding circular curvatures having different diameters, which are however each per se depending on the same parameter, namely on said deflection \( \phi \) angle. On such a basis on the one hand the difference \( \Delta \omega \) between both angular velocities \( \omega_1 \) and \( \omega_2 \) of driving wheels 11, 12 may be calculated, while on the other hand the velocity \( (v) \) of the vehicle as such may also be calculated on the basis of an average of said angular velocities \( \omega_1 \) and \( \omega_2 \) and at least one actual value of both angular velocities \( \omega_1 \) and \( \omega_2 \) of wheels 11, 12, which may then serve for the purposes of controlling the cornering lights 91, 92 by taking into account any disposable border conditions, which may be determined in relationship with the velocity \( (v) \) of moving the vehicle as such.

Various velocities \( (v) \) of the vehicle during its moving along a certain time period are shown in Fig. 3. Depending on said velocities, corresponding angular velocities \( \omega_1 \) and \( \omega_2 \) are shown in a further presentation in Fig. 4, where said angular velocities \( \omega_1 \) and \( \omega_2 \) corresponding to each velocity \( (v) \) of the vehicle, coincide when said vehicle is moving in a straight direction, or respectively differ more or less from each other when said vehicle is turning. A still further presentation in Fig. 5 shows various differences \( \Delta \omega \) between each corresponding angular velocities \( \omega_1 \) and \( \omega_2 \) of both driving wheels 11, 12, which indicate on the one hand, if the turning radius is greater or smaller, and on the other hand also which is the velocity \( (v) \) when the vehicle is turning. Accordingly, such processing unit 3 may then be programmed in such a manner that in certain circumstances the cornering lights 91, 92 may not be activated at all, in particular e.g. when the velocity \( (v) \) exceeds a pre-determined value, which is e.g. marked with a dotted line in Fig. 3, or also when the difference \( \Delta \omega \) between each corresponding angular velocities \( \omega_1 \) and \( \omega_2 \) of both driving wheels 11, 12, does not exceed a pre-determined value which is e.g. marked with a dotted line in Fig. 5.
In certain vehicles such anti-skid system for control of driving wheels 11, 12 may e.g. be permanently mounted, but the operation thereof may either be enabled or also disabled, when desired. However, such optional operation should not have any impact to operation of the device according to the invention. Measuring of angular velocities $\omega_1$ and $\omega_2$ of both driving wheels 11, 12 and calculating of corresponding differences $\Delta \omega$ is namely performed independently from activation of the anti-skid system for control of wheels 11, 12, by which said processing unit 3 is permanently receiving signals and then controls operation of cornering lights 91, 92 by means of the processing unit 40 quite independently from e.g. operation or control of wheels 11, 12 by means of braking or accelerating units.

The present invention also relates to a method, which is intended to control efficiently operation of said cornering lights 91, 92, namely either to switch-on or to switch-of, and/or to pivot each desired cornering light 91, 92 around the vertical axis thereof for the purposes of a pre-determined illuminating of each desired area in front of the vehicle, which would otherwise be insufficiently illuminated by means of any other available lights, by which such control of operation of such cornering lights 91, 92 is performed by taking into account each relevant conditions, which are in particular related to the velocity ($v$) of the vehicle and also to certain optical and meteorological conditions.

Said method for control of cornering lamps according to the invention is based on determining angular velocities $\omega_1$ and $\omega_2$ of both driving wheels 11, 12 as well as on calculating a difference $\Delta \omega$ between each corresponding angular velocities $\omega$, and $\omega_2$ of both driving wheels 11, 12 and automatic activation of cornering lights 91, 92 when said difference $\Delta \omega$ between angular velocities $\omega_1$ and $\omega_2$ of both driving wheels 11, 12 exceeds a pre-determined value and when at the same time also the other relevant conditions are fulfilled.
In one of variations of such method cornering lights 91, 92 are activated only in such case when said difference $\Delta \omega$ between angular velocities $\omega_1$ and $\omega_2$ of both driving wheels 11, 12 exceeds a pre-determined value and when at the same time also both signals are present on both input ports 31, 32 of the processing units 3 i.e. that the direction indicator is switched-on and that the illumination of the circumferential area outside of the vehicle is sufficiently low.

In a further variation of such method cornering lights 91, 92 are activated only in such case when said difference $\Delta \omega$ between angular velocities $\omega_1$ and $\omega_2$ of both driving wheels 11, 12 exceeds a pre-determined value and the velocity $(v)$ of vehicle is inferior with respect to a desired pre-determined value, while at the same time also both signals must be present on the input ports 31, 32 of the processing units 3 i.e. that the direction indicator is switched-on and that the illumination of the circumferential area outside of the vehicle is sufficiently low.

In a still further variation of such method cornering lights 91, 92 are activated only in the case when said difference $\Delta \omega$ between angular velocities $\omega_1$ and $\omega_2$ of both driving wheels 11, 12 exceeds a pre-determined value and the velocity $(v)$ of vehicle is smaller of a pre-determined value, while at the same time also both signals must be present on the input ports 31, 32 of the processing units 3 i.e. that the direction indicator is switched-on and that the illumination of the circumferential area outside of the vehicle is sufficiently low, so that the front lights or fog lights have already been activated.
1. Device for control of cornering lamps in motor vehicles, namely of lights (91, 92), which are foreseen for supplemental illumination of circumferential area of each vehicle, which is otherwise insufficiently illuminated by means of any other lights or is not illuminated at all, by which such device consists of a processing unit (3) intended for automatically activating or deactivating of each cornering light (91, 92) and comprises at least one input port (31), which is adapted for receiving signals related to activation of direction indicators, as well as an input port (32), which is adapted for receiving signals related to illumination of at least one circumferential area of the vehicle, and said cornering lights (91, 92) are then controlled by means of said processing unit (3) and also by considering said signals received via said input ports (31, 32), characterized in that said processing unit (3) comprises a further input port (33), which is linked to an input unit (43), which enables measuring of each angular velocity ($\omega_1$) of at least one inward wheel (11) and each angular velocity ($\omega_2$) of at least one outward wheel (12) of a turning vehicle and belongs to each available anti-skid unit (4), which is used for preventing vehicle wheels (11, 12, 21, 22) from sliding, by which said unit (43) is operating independently with regard to control of said anti-skid unit (4) for preventing vehicle wheels (11, 12, 21, 22) from sliding as such, and by which said processing unit (3) is furthermore adapted for receiving signals and data about each relevant measured angular velocities ($\omega_{oi}$, $\omega_2$) and in particular about the difference ($\Delta \omega$) between said angular velocities ($\omega_1$, $\omega_2$), in order to be able to control automatically activation or deactivation of each corresponding cornering light (91, 92), preferably each corresponding inward cornering light of the turning vehicle, on the basis of considering said difference ($\Delta \omega$) between said angular velocities ($\omega_1$, $\omega_2$) and also each desired pre-determined conditions related to signals, which are received via any other port (31, 32).
2. Device according to Claim 1, characterized in that the processing unit (3) is adapted for permanently receiving of data related to each measured difference ($\Delta \omega$) between the angular velocity ($\omega_1$) of at least one inward wheel (11) and the angular velocity ($\omega_2$) of at least one outward wheel (12) of a turning vehicle.

3. Device according to Claim 1, characterized in that the processing unit (3) is adapted for periodically receiving data about each measured difference ($\Delta \omega$) between the angular velocities ($\omega_1$, $\omega_2$, $\omega_3$) of at least one inward wheel (11) and the angular velocity ($\omega_2$) of at least one outward wheel (12) of a turning vehicle.

4. Device according to Claim 2, characterized in that the processing unit (3) is adapted for permanently receiving of data related to difference ($\Delta \omega$) between the angular velocities ($\omega_1$, $\omega_2$) of at least one inward wheel (11) and the angular velocity ($\omega_2$) of at least one outward wheel (12) of a turning vehicle.

5. Device according to Claim 1, characterized in that the processing unit (3) is adapted for periodically receiving relevant data about the difference ($\Delta \omega$) between the angular velocity ($\omega_1$) of at least one inward wheel (11) and the angular velocity ($\omega_2$) of at least one outward wheel (12) of a turning vehicle.

6. Device according to one of Claims 1 to 5, characterized in that the processing unit (3) is adapted for calculating a velocity (v) of the vehicle on the basis of each measured angular velocity ($\omega_1$) of at least one inward wheel (11) and each measured angular velocity ($\omega_2$) of at least one outward wheel (12) of a turning vehicle.

7. Device according to one of Claims 1 to 5, characterized in that the processing unit (3) is adapted for activation or deactivation of each corresponding cornering light (91, 92), depending on velocity (v) of the vehicle, which is calculated on the basis of each measured angular velocity ($\omega_1$) of at least one inward wheel (11) and each measured angular velocity ($\omega_2$) of at least one outward wheel (12) of a turning vehicle.
8. Device according to Claim 7, **characterized in that** the processing unit (3) is adapted for activation or deactivation of each corresponding cornering light (91, 92) by simultaneously taking into account the signal available on the input port (31).

9. Device according to Claim 7 or 8, **characterized in that** the processing unit (3) is adapted for activation or deactivation of each corresponding cornering light (91, 92) by simultaneously taking into account the signal available on the input port (32).

10. Device according to Claim 8 or 9, **characterized in that** the signal is available on the input port (31) only when the direction indicator is activated, while the signal on the input port (32) is present in the case when at least one front light of the same vehicle is activated and/or when at least one position light of the same vehicle is activated and/or when at least one fog light is activated and/or when said signal is received from at least one unit, which is adapted for measuring illumination in the area outside the vehicle.

11. Process for control of cornering lights (11, 12) for the purposes of activation or deactivation, namely switching-on or switching-off, and when desired also pivoting of each desired light (91, 92) around the vertical axis thereof in order to enable a predetermined illumination of each desired area in front of each corresponding vehicle, which is otherwise by means of ordinary lights by turning the vehicle insufficiently illuminated or not illuminated at all, by which such control of said cornering lights (91, 92) is performed under consideration of corresponding pre-conditions related to velocity \( (v) \) of said vehicle or previously activation of any other lights or meteorological conditions in the circumferential area of said vehicle, **characterized in that** the angular velocity \( (\omega_1) \) of at least one inward wheel (11) and the angular velocity \( (\omega_2) \) of at least one outward wheel (12) of a turning vehicle are measured permanently or periodically during any movement of said vehicle, and that a difference \( (\Delta\omega) \) between said angular velocities \( (\omega_1, \omega_2) \) is calculated permanently or periodically; **and in that** automatically activation of said cornering lights (91, 92) is
enabled only when said difference (Δω) between the angular velocity (ω₁) of at least one inward wheel (11) and the angular velocity (ω₂) of at least one outward wheel (12) of a turning vehicle exceeds a pre-determined value by simultaneously fulfilling the other pre-determined conditions.

12. Process according to Claim 11, characterized in that simultaneously with calculating said difference (Δω) between said angular velocities (ω₁, ω₂) of at least one inward wheel (11) and at least one outward wheel (12) of a turning vehicle also the velocity (v) of moving the vehicle in each driving direction is determined.

13. Process according to Claim 11 or 12, characterized in that said cornering lights (91, 92) are activated only when said difference (Δω) between the angular velocity (ω₁) of at least one inward wheel (11) and the angular velocity (ω₂) of at least one outward wheel (12) of a turning vehicle exceeds a pre-determined value, and if at the same time the velocity (v) of the vehicle is below a pre-determined value.

14. Process according to Claim 13, characterized in that said cornering lights (91, 92) are activated only when also signals are present on the input ports (31, 32) of the processing unit (3), which indicate that the direction indicator is activated and that illumination of the circumferential area of the vehicle is sufficiently low.

15. Process according to Claim 13, characterized in that said cornering lights (91, 92) are activated only when also signals are present on the input ports (31, 32) of the processing unit (3), which indicate that the direction indicator is activated and that illumination of the circumferential area of the vehicle is sufficiently low, so that previously the vehicle front light or fog lights have already been activated.
INTERNATIONAL SEARCH REPORT

International application No
PCT/SI2007/000030

A CLASSIFICATION OF SUBJECT MATTER

According to International Patent Classification (IPC) or to both national classification and IPC

B FIELD SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
B60Q  B60T

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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<th>Category</th>
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<th>Relevant to claim</th>
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<td>Y</td>
<td>paragraphs [0001], [0002], [0007] - [0010], [0017] - [0025], [0030], [0036] - [0038]; figures 1-3</td>
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<td>paragraphs [0003], [0007] - [0012], [0015], [0023] - [0025], [0028], [0030], [0033] - [0036], [0038], [0041]; figures 1-3</td>
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Date of the actual completion of the international search
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