

# HONDA



## RISK & PLANNING

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IN THE RESEARCH FIELD RISK & PLANNING:

EP2990290	METHOD AND SYSTEM FOR POST-COLLISION MANOEUVRE PLANNING AND VEHICLE EQUIPPED WITH SUCH SYSTEM
EP2950294	METHOD AND VEHICLE WITH AN ADVANCED DRIVER ASSISTANCE SYSTEM FOR RISK-BASED TRAFFIC SCENE ANALYSIS
EP2840007	CONSISTENT BEHAVIOUR GENERATION OF A PREDICTIVE ADVANCED DRIVER ASSISTANT SYSTEM
EP2826687	TECHNIQUE FOR LANE ASSIGNMENT IN A VEHICLE

# Method and system for post-collision manoeuvre planning and vehicle equipped with such system

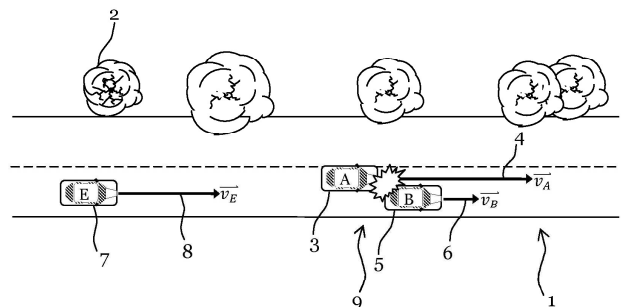
**EP2990290 B1**

<b>Current assignees</b>		<b>IPC - International classification</b>		
HONDA RESEARCH INSTITUTE EUROPE*		B60R-021/00	B60W-010/04	B60W-010/18
<b>Inventors</b>		B60W-010/20	B60W-030/08	B60W-030/09
REBHAN SVEN		B60W-030/095*	G08G-001/09	G08G-001/16*
KASTNER ROBERT		<b>CPC - Cooperative classification</b>		
<b>Filing date:</b>	<b>Granting Date:</b>	B60R-2021/0027	B60W-030/08	B60W-030/095*
2019-09-01	2019-10-10	B60W-030/095*/3	B60W-030/095*/6	B60W-2030/082
		B60W-2550/30	B60W-2554/80	B60W-2710/20
		<b>PCL - US patent classification</b>		
		<b>PCLO:</b> 701041000*		

<b>Family</b>			
JP6650214	B2	JP2016051465	A
EP2990290	B1	US20160059855	A1
US9566981	B2	EP2990290	A1

(EP2990290)

The invention regards the field of Advanced Driver Assistant Systems (ADAS) and the field of predictive emergency ADAS configured to predict trajectories of other traffic objects in order to avoid collisions with those traffic objects. In a first step, the method estimates the probability for at least two traffic objects to collide and, in a second step, predicts a potential movement of the traffic objects presumably involved in the collision after the collision. This information about a potential movement of the traffic objects can be used to plan a suitable trajectory path of an evasion manoeuvre for a host-vehicle employing the predictive emergency ADAS according to the invention. The invention proposes a system that detects the collision situation and applies crash situation models to predict the future dynamic properties of other traffic objects that collide or are about to collide with each other. The invention proposes to apply specific crash models like collision models, models derived from crash simulations and tests or models of human reactions in emergency situations.



## Method and vehicle with an advanced driver assistance system for risk-based traffic scene analysis

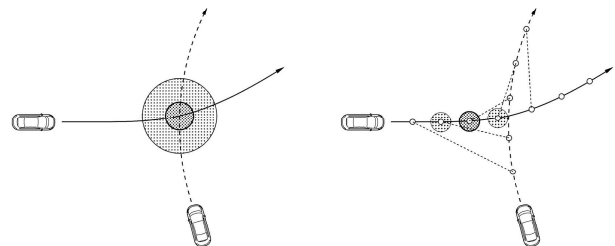
**EP2950294 B1**

<b>Current assignees</b> HONDA RESEARCH INSTITUTE EUROPE*		<b>IPC - International classification</b> B60R-021/00      B60W-030/095      G06K-009/00 G08G-001/16*	
<b>Inventors</b> DAMEROW FLORIAN EGGERT JULIAN		<b>CPC - Cooperative classification</b> B60W-030/095/6*    G06K-009/00/798    G06K-009/00/805 G08G-001/16/5      G08G-001/16/6	
<b>Filing date:</b> 2014-06-20	<b>Granting Date:</b> 2019-05-08	<b>PCL - US patent classification</b> <b>PCLO:</b> 701001000*	

<b>Family</b>			
EP2950294	B1	JP2015228204	A
JP6232004	B2	US20150344030	A1
US9463797	B2	EP2950294	A1

(EP2950294)

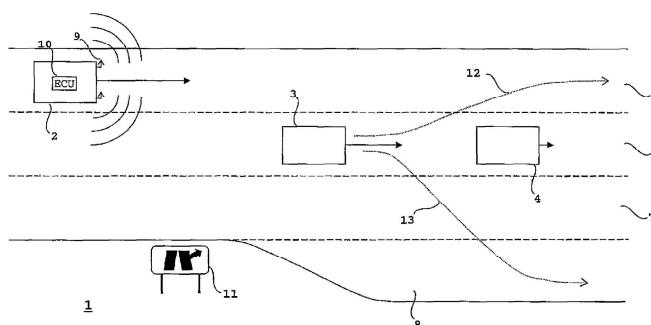
The invention relates to a method for the support of driving an ego-vehicle and such ego-vehicle including a driver assistance system configured to carry out the method steps. At least one traffic participant and/or infrastructure element involved in the traffic situation is selected which is to be taken into consideration for the traffic scene analysis. A hypothetical future trajectory for the ego-vehicle is predicted gained by predicting the current state of the ego-vehicle and is varied to generate a plurality of ego-trajectory alternatives including the calculated hypothetical future ego-trajectory. At least one hypothetical future trajectory from another traffic participant gained by predicting the current state of the traffic participant and/or calculating of a hypothetical future state sequence of the infrastructure element is determined. On the basis of at least one pair of the ego-trajectory plus one other trajectory a plurality of a risk functions over future time or along the calculated hypothetical future ego-trajectory alternatives is calculated, wherein one risk function corresponds to one ego-trajectory alternative. The plurality of risk functions is combined into a risk map which is then analyzed. From the analysis result a control signal for assisting the driving of the ego-vehicle is generated.



<b><u>Current assignees</u></b>		<b><u>IPC - International classification</u></b>		
HONDA RESEARCH INSTITUTE EUROPE*		B60T-007/12	B60T-007/22	B60W-030/095
<b><u>Inventors</u></b>		B60W-030/14	B60W-050/00*	B60W-050/06*
REBHAN SVEN		B62D-006/00	G08G-001/16	
<b><u>Filing date:</u></b>		<b><u>CPC - Cooperative classification</u></b>		
2013-08-22		B60T-007/12	B60T-007/22	B60T-2201/024
<b><u>Granting Date:</u></b>		B60W-030/095	B60W-030/14/3	B60W-050/00/97*
2018-04-04		B60W-050/06	B60W-2050/0056	B60W-2550/302
		B60W-2550/308	B60W-2554/801	B60W-2554/804

JP6404634	B2	JP2015061776	A
EP2840007	B1	US20150057907	A1
US9463806	B2	EP2840007	A1

The invention relates to a driver assistance system and method for a vehicle (2), the vehicle comprising at least one sensor means (9), at least one actuating means (32) and a control means (10). The method comprises the steps of - generating a decision signal (14) by a first evaluation of sensor data (38) acquired by the sensor means (9); - generating an activation signal (23) for the actuating means (32) when the decision signal (14) exceeds a signal threshold (15); - stabilizing the activation signal (23) in a temporal manner; - generating a interrupt decision signal (28) based on a second evaluation; - deciding based on the decision interrupt signal (28) if to interrupt stabilizing the activation signal (23); and - interrupting stabilizing the activation signal (23), when it is decided to interrupt stabilizing the activation signal, thus creating a reliable stabilized activation signal (27).



## Technique for lane assignment in a vehicle EP2826687 B1

<b>Current assignees</b>		<b>IPC - International classification</b>		
HONDA RESEARCH INSTITUTE EUROPE*		B60W-030/10	B60W-040/04*	G01C-021/30
<b>Inventors</b>		G01C-021/32	G01C-021/34	G01S-013/72
REBHAN SVEN		G01S-013/93	G08G-001/16	
EINECKE NILS		<b>CPC - Cooperative classification</b>		
<b>Filing date:</b>	<b>Granting Date:</b>	B60W-040/04	B60W-2420/52	B60W-2530/14
2013-07-16	2019-03-06	B60W-2550/306	B60W-2550/408	B60W-2554/4041
		B60W-2556/65	G01C-021/34*	G01S-013/72
		G01S-013/93/1	G01S-2013/9316	G01S-2013/936
		G06K-009/00/798	G06K-009/00/805	G08G-001/017
		G08G-001/20		

<b>Family</b>					
EP2826687	B1	JP2015022759	A		
JP5989034	B2	US20150025789	A1		
US9127956	B2	EP2826687	A1		

(EP2826687)

A technique for assigning lanes (104, 106) on a road (102) to objects (120, 122, 124) moving in a vicinity of a vehicle (110) on the road (102) is proposed. A method embodiment of the invention comprises the steps of providing trajectories, wherein the or each trajectory represents a time sequence of positions of a moving object (120, 122, 124); selecting first and second objects and determining a distance between a current position of the first object and the trajectory of the second object; comparing the distance with a predefined threshold; and providing, based on a result of the comparison, a lane assignment indicating a lane to which the second object is assigned.

