

Title (en)  
METHOD FOR DETERMINING AT LEAST ONE ELEVATION VARIABLE OF AN OBJECT TARGET USING A MOTOR VEHICLE RADAR SYSTEM

Title (de)  
VERFAHREN ZUR BESTIMMUNG WENIGSTENS EINER ELEVATIONSGRÖSSE EINES OBJEKTZIELS MIT EINEM KFZ- RADARSYSTEM

Title (fr)  
PROCÉDÉ POUR DÉTERMINER AU MOINS UNE GRANDEUR D'ÉLÉVATION D'UNE ZONE CIBLE D'UN OBJET AU MOYEN D'UN SYSTÈME RADAR DE VÉHICULE AUTOMOBILE

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Application  
**EP 22783479 A 20220913**

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Abstract (en)  
[origin: WO2023041499A1] The invention relates to a method for determining at least one elevation variable ( $\Theta$ , h) of an object target (22) of an object (18) which is detected by a radar system, in particular of a vehicle, with respect to an elevation reference plane (31). The invention also relates to a radar system and to a vehicle having at least one radar system. In the method, radar signals are transmitted by at least one antenna of the radar system and echo signals from radar signals reflected at the object target are received by at least two antennas. The respective phase centres of the antennas are arranged along a theoretical antenna axis extending in parallel to the elevation reference plane (31). A travelling speed (VH) of the radar system is determined. A radial speed (VR) of the at least one object target (22) relative to the radar system is determined by means of the received echo signals (24) using the radar system. A first direction variable ( $\alpha$ ) is determined by means of the received echo signals using the radar system, which first direction variable characterises the direction of the object target (22) relative to a first reference axis (y) which is fixed with respect to the radar system. A second direction variable ( $\beta$ ) is determined by means of the first direction variable ( $\alpha$ ), the radial speed (VR) and the travelling speed (VH), which second direction variable characterises the direction of the object target (22) relative to a second reference axis (x) which is fixed with respect to the radar system. At least one elevation variable ( $\Theta$ , a) of the object target (22) is determined by means of at least one of the direction variables ( $\alpha$ ,  $\beta$ ).

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