

Title (en)
DEVICE FOR MEASURING A YAW RATE

Title (de)
VORRICHTUNG ZUR MESSUNG EINER DREHRATE

Title (fr)
DISPOSITIF DE MESURE D'UN TAUX DE ROTATION

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Application
EP 11794031 A 20111201

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Abstract (en)
[origin: WO2012072255A1] The invention relates to a device (1) for measuring a yaw rate, comprising a mechanical yaw rate sensor (2), which has an inert mass which can be set into a primary vibration along a primary axis by means of an excitation device and can be deflected along a secondary axis extending transversely with respect to the primary axis in such a way that when a yaw rate occurs about a sensitive axis extending transversely with respect to the primary axis and transversely with respect to the secondary axis along the secondary axis, said device carries out a secondary vibration excited by the Coriolis force. At least one sensor element (4) is provided in order to detect an amplitude-modulated sensor signal for the secondary vibration. A sigma delta modulator has a low-pass filter (6) connected to the sensor element, a quantiser and a secondary actuator (10) disposed in a feedback path for application to the mass of a force which counteracts the Coriolis force. The secondary actuator (10) is connected to the quantiser via the feedback path in such a way that a feedback signal averaged over time compensates for the deflection of the mass in the direction of the secondary vibration. For shifting of the frequency band of the amplitude-modulated sensor signal in a lower frequency range a first modulation stage (5) is disposed between the sensor element and the low-pass filter (6). A second modulation stage (9) is disposed in the feedback path for reversal of the frequency shift.

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G01C 19/5776 (2012.01)

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