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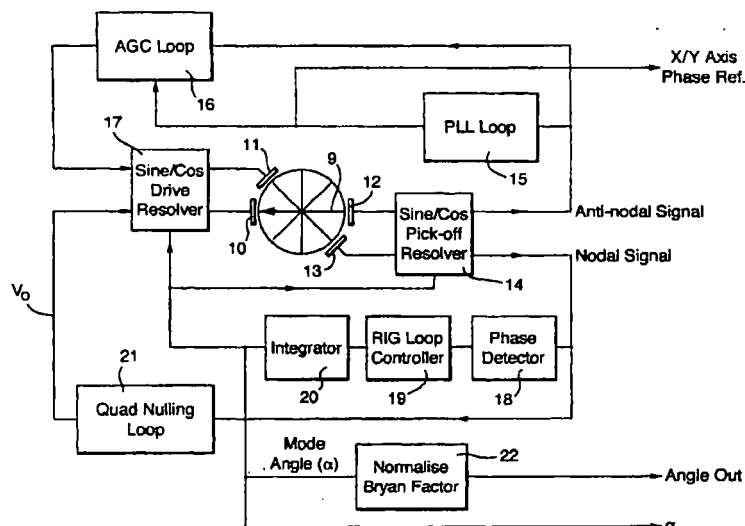
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(54) Title: VIBRATORY SENSOR OPERATING AS A RATE GYRO ABOUT TWO AXES AND AS A RATE INTEGRATING GYRO ABOUT THE THIRD ONE



(57) Abstract: A vibrating structure gyroscope comprises a resonant body, drive transducer means for driving resonant motion of the body, pick-off means for producing signals representative of the resonant motion, and signal processing means for extracting z-axis orientation information and x- and y-axis rate information from the signals. The resonant body is planar and the resonant motion takes place in a vibration mode pattern whose orientation angle with respect to the body varies in accordance with z-axis orientation of the body and couples energy into an out-of-plane response mode motion in accordance with rotation of the body about the x- or y-axis. Signal processing means resolves the out-of-plane response mode motion with reference to a z-axis orientation signal to extract the x- and y-axis rate information.

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