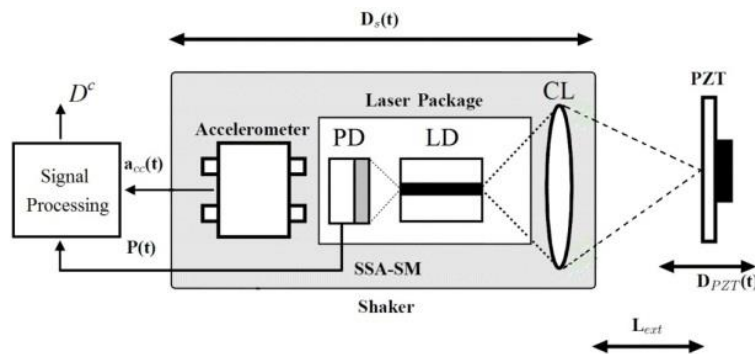


CALDIRO: contactless & low-cost embedded system for on-board vibration measurement

Laser based vibration measurement systems requires a vibration proof table, restraining their scope of applications, besides high cost.

DESCRIPTION*

- Based on optical feedback interferometry (“self-mixing” effect), the laser is used as light source, micro-interferometer and detector at once, resulting into a low-cost integrated system
- Coupled with an accelerometer measuring the laser sensor own movements, the device is robust to parasitic vibrations



TECHNICAL SPECIFICATIONS

Target	All
Target prerequisites	None
Bandwidth	20 Hz up to 40 KHz
Measurement range	10 m
Precision	10 up to 100 nanometers
In-depth analysis	No
Target Contact	No
Response Time	Real Time
Robutness	Yes
Prototype size	15 cm x 5 cm (sensor: 9 mm)
Measurement Frequency	Point to point
Cost	Very Low

*Technology requiring license rights.

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COMPETITIVE ADVANTAGES

- Compact (embedded system)
- Deployment flexibility
- Robust
- Cost Efficient

APPLICATIONS

- Non destructive testing applications:
 - Operating industrial conditions
 - Embedded applications

INTELLECTUAL PROPERTY

- Patent in force

DEVELOPMENT STAGE

- Experimental proof of concept



LABORATORY

- Optoelectronics integrated & embedded Systems research Group (OSE)



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