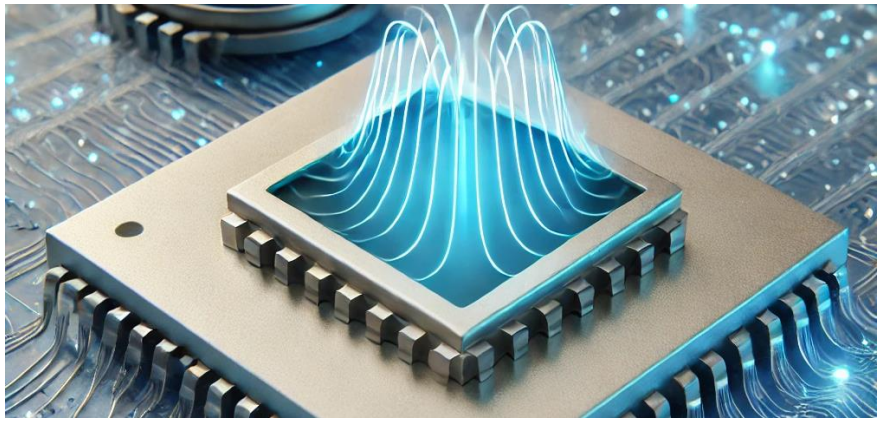
Technology Offer CSIC/ER/04

METHOD AND DEVICE FOR MONITORING THE OUTPUT SIGNAL OF NANO-OSCILLATORS



This invention offers a new and efficient way of monitoring nano-oscillators, reducing the need for external components, lowering costs and energy use while enhancing performance.

Intellectual Property

Priority patent application field

Stage of development

Technological concept formulated pending experimental validation

Intended Collaboration

Licensing and/or co-development

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Market need

Nano-oscillators are essential in next-generation technologies such as neuromorphic computing, microwave applications, and high-frequency signal generation.

Current methods for monitoring these nano-oscillators are complex, involving bulky, high-energy-consuming devices due to the reliance on external radio frequency detectors.

There is a need for a simpler, more compact, and energy-efficient solution that can integrate smoothly into IoT devices, AI systems, and communication technologies.

Proposed solution

This invention introduces a compact device and a simplified method for monitoring nano-oscillators while enhancing performance.

By capturing the output of nano-oscillators directly on-chip, both size and energy consumption are significantly reduced, eliminating the need for external radio frequency detectors.

It is also scalable and versatile, making it adaptable for neuromorphic computing applications or small-scale magnetic sensors.

Competitive advantages

- Simplified Design: Compact and low-cost devices with no external detectors.
- Energy Efficiency: On-chip monitoring reduces power usage, ideal for portable and IoT devices.
- Enhanced Performance: Amplification improves detection even with low signal strength, ensuring reliable operation.
- Broad Application: Ideal for neuromorphic and IoT uses, enabling efficient nano-oscillators in AI and sensor technologies.