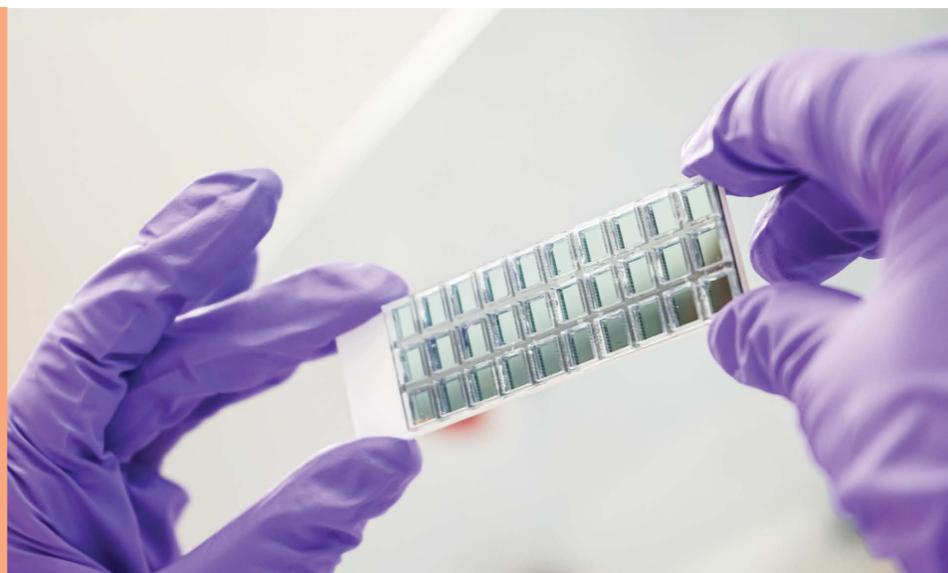


PLASMONIC SENSORS

A catalogue of SERS sensors with ultrasensitive capabilities in different supports

Raman scattering is a spectroscopic technique that delivers high quality structural information at the fingerprint level of molecules, however the intensity of Raman signals in complex matrixes or at low concentrations is poor. Surface-enhanced Raman scattering (SERS) spectroscopy uses plasmonic nanoparticles to boost the benefits of Raman scattering while enhancing its efficiency several orders of magnitude.

At INL we have developed a **catalogue of SERS sensors with ultrasensitive capabilities in different supports**, to cover a whole range of analytical challenges: silicon wafers, glass wafers, glass slides, glass cuvettes, coverslips, paper and porous membranes. These range of SERS substrates show unprecedented robustness and reproducibility from batch to batch, one of the major limitations from other developers.



TRL 6

+ Features

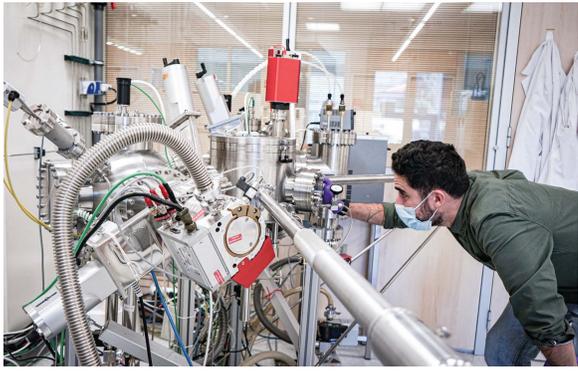
Fingerprint info
Structural info
Non-destructive
Ultrasensitive
Multiplex
No photobleaching
Label-free

+ Suggested applications

-Omics (cells, proteins, metabolites, nucleic acids)
Environmental analyses (emergent pollutants, pesticides, toxins)
Foodborne pathogen analysis (bacteria, pesticides)

+ Competitive advantage

Higher sensitivity: femtomolar and single-molecule
High homogeneity
Intra-batch variability (<1 %)
Extra-batch variability (<5 %)
Robust fabrication (200 sensors per batch)



YOUR WORLDWIDE PARTNER FOR SCIENCE & INNOVATION



Shaping the future together in Clean Energy, Food, Health, Smart Digital NanoSystems, Sustainable Environment and Advanced Materials & Computing.

01 SCIENCE

Discover our areas of research and expertise, where we dive into nanoscience and intermix various disciplines to transform it into nanotechnology.

03 SERVICES

INL has state-of-the-art scientific equipment which can be used by internal and external stakeholders within the research, technology, and innovation fabric. You can access this open facility with expert support, either remotely or in-person, for full-service or for independent use after initial in-house training.

02 TECHNOLOGY

By nourishing on our multiple disciplines in house and with partners, we develop and deploy solutions to the market.

04 SOCIETY

INL is committed to disseminating to all audiences the nanotechnology concepts, to bring society closer to our scientific developments. Visit our website and explore our activities and events.

For more information:



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