

# TERS and TEPL Imaging for 2D Materials Research

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This presentation focuses on the application of Tip-Enhanced Raman Spectroscopy (TERS) in the research of 2D materials.

Starting with a brief overview of the historical development of TERS instrumentation at HORIBA Scientific, we will showcase the technical innovations over the past 15 years. These breakthroughs have enabled TERS to be widely utilized in various applications today.

We will then demonstrate the usefulness of TERS and TEPL (Tip-Enhanced Photoluminescence) in the investigation of 2D materials, including graphene, 2D semiconductors, and MXenes. Through specific examples, we will showcase how TERS provides valuable insights into the structural and chemical properties of these materials at the nanoscale. Additionally, we will present our latest developments, such as environmental control solutions for measurements in liquid and electrochemical environments.

Finally, we will briefly discuss the range of solutions offered by HORIBA Scientific for graphene and other 2D materials research, emphasizing their significance in academic and industrial applications.

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## References

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