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# Superconducting devices based on Josephson junctions for metrology and general instrumentation

The discovery of tunnelling supercurrents in the 1960s initiated the development of superconducting electronic devices that employ Josephson junctions as their key functional elements. At PTB, Superconducting Quantum Interference Devices (SQUIDs) and Josephson Quantum Voltage Sources (JQVSs) are being developed and reliably fabricated using thin film technologies. They can be operated in different cryogenic environments and provide highest sensitivity and precision for a wide range of demanding measurement applications. This presentation will introduce concepts and properties of PTB's SQUIDs and JQVSs and will discuss examples of their application in electrical metrology, fundamental physics, medical research and material science.

## Summary

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