

Plenary Talk PLV VII Wed 9:30 ZHG011
The Quantum Revolution in Metrology — ●KLAUS VON KLITZING — Max Planck Institute for Solid State Research, Stuttgart, Germany

In celebration of the 2025 International Year of Quantum Science and Technology, this presentation will delve into the revolutionary impact

of the quantum Hall effect on metrology. What began as fundamental research on silicon field-effect transistors culminated in the surprising discovery of the quantum Hall effect. This breakthrough ignited a paradigm shift in measurement science, paving the way for the worldwide implementation of an International System of Units (SI) based on constants of nature with e.g. a fixed value for the Planck constant to redefine the kilogram.