

# Symposium Real-Time Measurements of Quantum Dynamics (SYQD)

jointly organised by  
 the Semiconductor Physics Division (HL),  
 the Magnetism Division (MA), and  
 the Low Temperature Physics Division (TT)

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Time-resolved studies of quantum systems are the key to understanding quantum dynamics at its core. The real-time measurement of individual quantum jumps yields maximal physical insight. This includes electrical and optical detection schemes to monitor individual quantum jumps in nanoscopic devices. It is, furthermore, a prerequisite for coherent control of quantum states and can be used to optimise devices for metrological applications. The symposium is meant to report on recent experimental progress in performing real-time measurements of quantum dynamics, to present recently-developed theoretical methods for analyzing measured data, and to highlight recent successful examples of accessing quantum dynamics via real-time measurements.

## Overview of Invited Talks and Sessions

(Lecture hall HSZ 01)

### Invited Talks

SYQD 1.1	Thu	9:30–10:00	HSZ 01	<b>Real-time measurement and control of spin dynamics in quantum dots</b> — ●SEIGO TARUCHA
SYQD 1.2	Thu	10:00–10:30	HSZ 01	<b>Quantum Dot arrays for Quantum Information Transfer</b> — ●GLORIA PLATERO, DAVID FERNANDEZ-FERNANDEZ, JUAN ZURITA
SYQD 1.3	Thu	10:30–11:00	HSZ 01	<b>Optical Detection of Real-Time Quantum Dynamics in Quantum Dots</b> — ●MARTIN GELLER, JENS KERSKI, ERIC KLEINHERBERS, JÜRGEN KÖNIG, ANNIKA KURZMANN, PIA LOCHNER, AXEL LORKE, ARNE LUDWIG, HENDRIK MANNEL, PHILIPP STEGMANN, ANDREAS WIECK, MARCEL ZÖLLNER
SYQD 1.4	Thu	11:30–12:00	HSZ 01	<b>Cooper Pair Splitting in Real-Time</b> — ●CHRISTIAN FLINDT
SYQD 1.5	Thu	12:00–12:30	HSZ 01	<b>Trajectory-based detection in stochastic and quantum thermodynamics</b> — ●JUKKA PEKOLA

### Sessions

SYQD 1.1–1.5	Thu	9:30–12:30	HSZ 01	<b>Real-Time Measurements of Quantum Dynamics</b>
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