
Conference Programme

17th International Workshop on Slow Positron Beam Techniques and Applications

Garmisch-Partenkirchen, Germany

September 6–11, 2026



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Summer School

The SLOPOS17 Summer School will take place in the rooms of the Dorint Sporthotel and is meant to be an open and interactive event. Please feel free to ask questions at any time and take the opportunity to talk with experienced experts, students, and doctoral researchers. The aim is to introduce the main concepts and methods of the field in an accessible way, so that all participants can better follow and enjoy the talks during the main conference.

Time	Saturday, September 5	Sunday, September 6
09:00–09:45	Positron Sources Christoph Hugenschmidt	Positronium in Matter Roberto Brusa
09:45–10:30	Generation of Micro Beams Johannes Mitteneder	Surface Science with Positrons Ken Wada
10:30–10:50	<i>Coffee Break</i>	
10:50–11:35	Positron Beams for Material Sciences Maik Butterling	Antihydrogen Experiments Benjamin Rienäcker
11:35–12:20	Detectors Francesco Guatieri	Positron-Electron Plasma Adam Deller
12:20–14:00	<i>Lunch Break</i>	
14:00–14:45	Doppler-Broadening Spectroscopy Jonatan Slotte	Positronium Spectroscopy Paolo Crivelli
14:45–15:30	Positron Annihilation Lifetime Spectroscopy Jakub Cizek	

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- The Welcome Reception will take place on Sunday, September 6, from 18:30 to 21:30 at the Dorint Sporthotel Garmisch-Partenkirchen
 - Registration during the weekend can be done on Saturday between 08:00 and 09:00, or on Sunday between 17:30 and 18:30 at the conference desk

Time Table SLOPOS17 Garmisch-Partenkirchen

Time / Date	Sep 7 (Mon)	Sep 8 (Tue)	Sep 9 (Wed)	Sep 10 (Thu)	Sep 11 (Fri)	
08:30 - 08:50	Opening & Welcome (M. Dickmann)	Instrumentation III Detectors & New Devices (M. Dickmann) 08:30: A. Deller (IT 5.1) 09:00: F. Guatieri (IT 5.2) 09:30: K. Brenner (T 5.3)	Instrumentation IV Applied Beam Methods (C. Hugenschmidt) 08:30: A. Kinomura (IT 7.1) 09:00: F. Selim (IT 7.2) 09:30: S. Crisp (T 7.3) 09:50: M. Münster (T 7.4)	Positronium I Beams & Many Positrons (R. Helm) 08:30: C. Ito (IT 10.1) 09:00: R. Caravita (IT 10.2) 09:30: M. Bumbar (T 10.3) 09:50: R. C. Ferguson (T 10.4)	Thin Films (S. Eijt) 08:30: J. Gaudet (IT 14.1) 09:00: R. Ferragut (IT 14.2) 09:30: S. Klug (T 14.3)	
08:50 - 09:10	Instrumentation I Beamlines & Development (W. Egger) 08:50: H. Zhang (IT 1.1) 09:20: K. Wada (IT 1.2) 09:50: T. Forsthofer (T 1.3) 10:10: M. Haaks (T 1.4)					
09:10 - 09:30						
09:30 - 09:50						
09:50 - 10:10						
10:10 - 10:30		Coffee Break	Coffee Break	Coffee Break	Coffee Break	
10:30 - 10:50	Coffee Break	Polymers & Organic Materials (R. Ferragut) 10:10: A. Kawasuso (IT 6.1) 10:40: S. Kolodziej (T 6.2) 11:00: B. Tapia (T 6.3)	Coffee Break	Coffee Break	Positronium III Spectroscopy & Diagnostics (R. Caravita) 10:10: S. Mariazzi (IT 15.1) 10:40: E. E. Javary (T 15.2) 11:00: R. Sheldon (T 15.3) 11:20: V. Schmidt (T 15.4)	
10:50 - 11:00	ErUM DataHub Session Theory & Simulation (F. Guatieri) 10:30: J. M. Bürger (ErUM) 10:40: M. Tachikawa (IT 8.1) 11:10: G. Roma (IT 8.2) 11:40: G. Gribakin (T 8.3) 12:00: L. Mathes (T 8.4) 12:20: J. Kuriplach (T 8.5)		Metals II (M.-F. Barthe) 10:30: M. Fujinami (IT 11.1) 11:00: V. V. Burwitz (IT 11.2) 11:30: E. Lu (T 11.3) 11:50: X. Gui (T 11.4)	SLOPOS17 Summary (F. Selim & D. Keeble) & Closing (M. Dickmann)		
11:00 - 11:10						
11:10 - 11:20						
11:20 - 11:30						
11:30 - 11:40						
11:40 - 11:50						
11:50 - 12:00						
12:00 - 12:10						
12:10 - 12:20						
12:20 - 12:30						
12:30 - 12:40						
12:40 - 12:50						
12:50 - 14:00		Lunch Break			Lunch Bag Distribution	Lunch Break
14:00 - 14:10	Instrumentation II Large Facilities (M.-O. Liedke) 14:00: K. Michishio (IT 3.1) 14:30: E. Hirschmann (IT 3.2) 15:00: M. Butterling (IT 3.3) 15:30: L. Liskay (T 3.4)	Excursion 12:00 - 13:00 Lunch at the Olympic Ski Stadium 13:30 - 14:15 Ettal Abbey 15:00 - 18:00 Linderhof Castle	Surface & Layered Systems (J. Urban-Klaehn) 14:00: J. Cizek (IT 9.1) 14:30: S. A. Yadgeer (T 9.2) 14:50: B. Dhar (T 9.3)	Positronium II Antihydrogen (L. Liskay) 14:00: B. Rienäcker (IT 12.1) 14:30: A. Chehaimi (T 12.2) 14:50: J.-S. Wang (T 12.3) 15:10: M. Bayo (T 12.4)		
14:10 - 14:30						
14:50 - 15:10						
15:10 - 15:30						
15:30 - 15:50			Conference Photo			
15:50 - 16:10	Coffee Break			Coffee Break		
16:10 - 16:30	Memorial Session for Gerhard Brauer & Clifford Surko (M. O. Liedke, G. Gribakin)			Poster Session & Company Exhibition (P01 - P35) 15:30 - 18:30		Semiconductors & Oxides II (J. Slotte) 15:50: M.-F. Barthe (IT 13.1) 16:20: M. O. Liedke (IT 13.2) 16:50: T. Wu (T 13.3)
16:30 - 16:50	Semiconductors & Oxides I (J. Cizek) 16:30: C. Corbel (IT 4.1) 17:00: S. Eijt (IT 4.2) 17:30: D. Keeble (IT 4.3)					
16:50 - 17:10						
17:10 - 17:30						
17:30 - 17:50						
17:50 - 18:00				IAC Meeting		
18:00 - 19:00				International Advisory Committee Meeting (IAC Members only) 17:30 - 19:00		
	Evening Programm Almstadl 20:00 - 23:00 "Quiz Night" starts at 20:30	Excursion Dinner Dorint Sporthotel 19:00 - 21:00		Conference Dinner Pflegerseealm 18:00 - 23:30		

*The **Welcome Reception** will take place on **Sunday, September 6, from 18:30 to 21:30** at the Dorint Sporthotel Garmisch-Partenkirchen

** **Registration** during the weekend can be done on **Saturday between 08:00 and 09:00**, or on **Sunday between 17:30 and 18:30** at the conference desk

Monday, September 7, 2026

08:30–08:50 **Opening & Welcome**
Marcel Dickmann

Session 1: Instrumentation I – Beamlines & Development

08:50–10:30

Chair: Werner Egger

- 08:50–09:20 **Hongjun Zhang** IT 1.1
Construction of high-intensity short-pulse slow positron beam at USTC
- 09:20–09:50 **Ken Wada** IT 1.2
Low-energy positron diffraction (LEPD) experimental station and experimental procedure at the Slow Positron Facility, IMSS, KEK
- 09:50–10:10 **Timo Forsthofer** T 1.3
A 325 MHz radiofrequency cavity for the pulsed high energy positron system (PHEPS)
- 10:10–10:30 **Matz Haaks** T 1.4
A Compact and Portable Digital Tabletop System for Positron Annihilation Lifetime Spectroscopy
- 10:30–10:50 *Coffee Break*

Session 2: Metals I

10:50–12:50

Chair: Torsten E. M. Staab

- 10:50–11:20 **Vladimir Slugen** IT 2.1
PAS application in material studies for safe and long-term operation of nuclear power plants
- 11:20–11:50 **Luca Chiari** IT 2.2
Hydrogen-induced vacancy formation and evolution in austenitic stainless steel after hydrogen addition
- 11:50–12:10 **Mounir Alfazaa** T 2.3
Positron annihilation study of radiation-induced defects in tungsten under fusion-relevant conditions
- 12:10–12:30 **Zhiwei Hu** T 2.4
Temperature-Dependent Defect Evolution in Irradiated Tungsten and Tungsten–Rhenium Alloys
- 12:30–12:50 **Jyoti Verma** T 2.5
Radiation Tolerance in Compositionally Complex Alloys
- 12:50–14:00 *Lunch Break*

Session 3: Instrumentation II – Large Facilities

14:00–15:50

Chair: Maciej Oskar Liedke

14:00–14:30	Koji Michishio Positron microbeam analysis at the AIST slow positron beam facility	IT 3.1
14:30–15:00	Eric Hirschmann Positron user facilities at ELBE (HZDR): upgrades and outlook	IT 3.2
15:00–15:30	Maik Butterling TU Delft's Positron Annihilation Facilities for Advanced Materials Research – an Update	IT 3.3
15:30–15:50	Laszlo Liskay High-intensity positron sources based on a low-energy electron linac and a buffer-gas trap	T 3.4
15:50–16:10	<i>Coffee Break</i>	
16:10–16:30	Memorial Session for Gerhard Brauer & Clifford Surko Maciej Oskar Liedke & Gleb Gribakin	

Session 4: Semiconductors & Oxides I

16:30–18:00

Chair: Jakub Cizek

16:30–17:00	Catherine Corbel Depth dependence of temperature effect on positron capture in near-surface hybrid perovskites	IT 4.1
17:00–17:30	Stephan W. H. Eijt Evolution of point defects in photovoltaic MBE-grown BaSi ₂ thin films examined by Positron Annihilation Spectroscopy	IT 4.2
17:30–18:00	David Keeble Identification of vacancy-related point defects in inorganic perovskite halide semiconductors	IT 4.3
20:00–23:00	<i>Evening Program</i> Quiz night with drinks and music in the "Almstadl" The Quiz Night starts at 20:30	

Tuesday, September 8, 2026

Session 5: Instrumentation III – Detectors & New Devices

08:30–09:50

Chair: Marcel Dickmann

08:30–09:00	Adam Deller Positron transport and cooling in a magnetic dipole trap	IT 5.1
09:00–09:30	Francesco Guatieri Refining on novel beam detection methods	IT 5.2
09:30–09:50	Kilian Brenner A new setup for 2D-ACAR using spatially resolved scintillation detectors	T 5.3
09:50–10:10	<i>Coffee Break</i>	

Session 6: Polymers & Organic Materials

10:10–11:20

Chair: Rafael Ferragut

10:10–10:40	Atsuo Kawasuso Search for helicity-dependent positronium formation in biological amino acid molecules	IT 6.1
10:40–11:00	Slawomir Kolodziej PAL testing of pristine, functionalized and activated hydride membranes	T 6.2
11:00–11:20	Brandon Tapia A systematic analysis of free volume distributions across multiple molecular separation polymer membranes using positron annihilation lifetime analysis (PALS)	T 6.3
11:20–11:50	<i>Lunch Bag Distribution</i>	
11:50–18:00	<i>Excursion</i> 12:00–13:00 Lunch at the Olympic Ski Stadium (9 min walk from conference hotel) 13:00–13:30 Departure to Ettal Abbey 13:30–14:15 Visit to the Basilica 14:30–14:40 Departure to Linderhof Palace 15:00–18:00 Guided tour of the palace, gardens, and grotto 18:15–18:45 Departure to Garmisch-Partenkirchen	
19:00–21:00	<i>Excursion Dinner</i> Dorint Sporthotel	

Wednesday, September 9, 2026

Session 7: Instrumentation IV – Applied Beam Methods

08:30–10:10

Chair: Christoph Hugenschmidt

08:30–09:00	Atsushi Kinomura Transient changes in irradiation-induced defects detected by positron re-emission signals	IT 7.1
09:00–09:30	Farida Selim Real-time observation of defect production, recovery, and stabilization during ion irradiation and implantation using in-situ positron annihilation spectroscopy	IT 7.2
09:30–09:50	Sophie Crisp Compact Positron Source as a Source of Entangled Gamma Rays	T 7.3
09:50–10:10	Markus Münster Detecting antiprotons with submicrometric spatial accuracy	T 7.4
10:10–10:30	<i>Coffee Break</i>	

Session 8: ErUM DataHub Session – Theory & Simulation

10:30–12:40

Chair: Francesco Guatieri

10:30–10:40	Jan M. Bürger EruM Data Hub presentation	
10:40–11:10	Masanori Tachikawa Quantum Monte Carlo study on positron binding to atomic anion dimers	IT 8.1
11:10–11:40	Guido Roma Positron annihilation lifetime calculations in halide perovskites	IT 8.2
11:40–12:00	Gleb Gribakin Many-body-theory calculations of positron-molecule scattering using the Lippmann–Schwinger equation and Lebedev quadrature	T 8.3
12:00–12:20	Lucian Mathes LIMPID: an open-source Python framework for positron diffusion analysis in multilayer systems	T 8.4
12:20–12:40	Jan Kuriplach Positron annihilation in undoped and Ca-doped NFMO sodium-ion cathode materials	T 8.5
12:40–14:00	<i>Lunch Break</i>	

Session 9: Surface & Layered Systems

14:00–15:10

Chair: Jagoda Urban-Klaehn

14:00–14:30	Jakub Cizek Light-induced changes of defect states in epitaxial GaN films	IT 9.1
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- 14:30–14:50 **Saniya Anjum Yadgeer** T 9.2
Monte Carlo Modelling of Low Energy Positron Annihilation in Few Layer Graphene on Copper: Implications for Surface Sensitive Coincidence Doppler Broadening Spectroscopy
- 14:50–15:10 **Baishakhi Dhar** T 9.3
Multi-Electron Time-of-Flight Spectroscopy of Positron-Annihilation-Induced Auger Decay from the $\text{TiO}_2(110)$ surface
- 15:10–15:30 **Conference Photo**
- 15:30–18:30 **Poster Session & Company Exhibition**
P01–P35 – see the poster list at the end of this programme
- 17:30–19:00 **IAC Meeting**
International Advisory Committee Meeting (IAC Members only)

Thursday, September 10, 2026

Session 10: Positronium I – Beams & Many Positrons

08:30–10:10

Chair: Ricardo Helm

- 08:30–09:00 **Chihiro Ito** IT 10.1
Measurement of the spatial distribution of Ps^- beam using a laser-wire scanning method towards absolute measurements of photodetachment cross-sections of Ps^-
- 09:00–09:30 **Ruggero Caravita** IT 10.2
Advances towards the first measurement of the gravitational free-fall of a pulsed anti-hydrogen beam
- 09:30–09:50 **Marcus Bumbar** T 10.3
Current advancements in antihydrogen production and positron purification in the ASACUSA Cusp apparatus
- 09:50–10:10 **Riley Craig Ferguson** T 10.4
A novel inertial probe of the WEP at AEgIS: The MEDUSA Gravity Module
- 10:10–10:30 *Coffee Break*

Session 11: Metals II

10:30–12:10

Chair: Marie-France Barthe

- 10:30–11:00 **Masanori Fujinami** IT 11.1
Direct evidence of vacancy-type defects beneath intergranular fracture surfaces in hydrogen-embrittled high-strength steel by a positron microprobe
- 11:00–11:30 **Vassily Vadimovitch Burwitz** IT 11.2
Near-surface hydrogen-filling levels of radiation defects determined by depth-resolved positron annihilation spectroscopy
- 11:30–11:50 **Eryang Lu** T 11.3
Atomic-scale characterization of irradiation damage and lattice disorder in refractory Multi-principal Element Alloys
- 11:50–12:10 **Xiaoyu Gui** T 11.4
Dose and temperature dependent irradiation damage in a novel Co-free high entropy alloy
- 12:10–12:30 **SLOPOS18 Application & Voting**
- 12:30–14:00 *Lunch Break*

Session 12: Positronium II – Antihydrogen

14:00–15:30

Chair: Laszlo Liskay

- 14:00–14:30 **Benjamin Rienacker** IT 12.1
Rydberg positronium diagnostics for antihydrogen beam formation at AEgIS

14:30–14:50	Ahmad Chehaimi Advances on positronium cooling at the AEgIS collaboration	T 12.2
14:50–15:10	Jia-Shian Wang Measurement of positron spin precession via Quantum Oscillations	T 12.3
15:10–15:30	Matias Bayo Experimental setup for continuous positronium beam formation via Ps^- production and laser photodetachment	T 12.4
15:30–15:50	<i>Coffee Break</i>	

Session 13: Semiconductors & Oxides II**15:50–17:10***Chair: Jonatan Slotte*

15:50–16:20	Marie-France Barthe Effect of lanthanum doping on vacancy defects in uranium dioxide	IT 13.1
16:20–16:50	Maciej Oskar Liedke Microstructure and defect recovery in ion irradiated Ga_2O_3	IT 13.2
16:50–17:10	Tiancheng Wu Positron Annihilation Study of Frequency-Bias Dependent Defect Dynamics in SiO_2/Si MOS Structures	T 13.3
18:00–23:30	<i>Conference Dinner</i> Pflegerseealm	

Friday, September 11, 2026

Session 14: Thin Films

08:30–09:50

Chair: *Stephan W. H. Eijt*

- 08:30–09:00 **James Gaudet** IT 14.1
 Identification of vacancy-type defects in low-T epitaxial films engineered as hosts for Si-based colour centres
- 09:00–09:30 **Rafael Ferragut** IT 14.2
 A new paradigm for positrons? Charge-transfer orbitals and internal fields at buried interfaces in energy materials
- 09:30–09:50 **Sebastian Klug** T 14.3
 Defect landscape in Nb₃Sn thin films for superconducting radio frequency cavity applications
- 09:50–10:10 *Coffee Break*

Session 15: Positronium III – Spectroscopy & Diagnostics

10:10–11:40

Chair: *Ruggero Caravita*

- 10:10–10:40 **Sebastiano Mariazzi** IT 15.1
 A new bunched positron beam for studies on positronium collected in laser-written microcavities
- 10:40–11:00 **Evans Edwin Javary** T 15.2
 Laser spectroscopy of positronium 1S-2S interval
- 11:00–11:20 **Ross Sheldon** T 15.3
 Measurements of positronium compound binding energies
- 11:20–11:40 **Valentin Schmidt** T 15.4
 Towards a high precision ortho-Positronium lifetime measurement with a PET-like detector
- 11:40–12:30 **Closing Session**
 Farida Selim & David Keeble
 SLOPOS17 Summary
 Marcel Dickmann
 Closing
- 12:30–14:00 *Lunch & Farewell*

Poster Session

Poster Session & Company Exhibition

Wednesday, September 9, 2026, 15:30–18:30 · P01–P35

- | | |
|------------|---|
| P01 | Michael Berghold
Experiment proposal for the production and characterization of positronic molecules |
| P02 | Sara Bolzoni
Single-electrode diocotron mode Damping for positron plasma recentering |
| P03 | Gregory Boyle
$\langle Z_{\text{eff}} \rangle$ Across the Noble Gas Series: Theory, Experiment and Cross-Section Sensitivity |
| P04 | Leon Chryssos
High statistics CDBS measurements and TC-DFT calculations on reference materials and Al alloys |
| P05 | Mohamed Walid Halimi
Doppler broadening spectroscopy study of nanostructured FeCr alloy powder produced by mechanical alloying |
| P06 | Lisa-Marie Krug
Irradiation induced rhenium segregation in W-Re alloys studied by coincidence Doppler broadening spectroscopy |
| P07 | Masaki Maekawa
Development of spin-polarized pulsed slow positron beam accumulator |
| P08 | Oksana Melikhova
The role of vacancy type defects in room-temperature ferromagnetism of TiO ₂ films |
| P09 | Johannes Mitteneder
Micrometer positron beam at the Scanning Positron Microscope for defect analysis |
| P10 | Naoki Miyamoto
Forward emission of positronium from untreated polycrystalline Au films |
| P11 | Yugo Nagata
Positronium diffraction and future developments |
| P12 | Patrick Oberländer
Design and simulation of an optimized radiation shield for a 1.8 GBq ²² Na positron source |
| P13 | Piyush Pandey
Geant4 simulation of modular J-PET detector response to antihydrogen annihilation products in the AEGIS experiment |
| P14 | Luca Penasa
Pre-Bunching and Bunching System of the PsICO Pulsed Positron Beam |
| P15 | Danny Petschke
Performance Comparison of a DRS4 Evaluation-Board-based PALS Setup and the Integrated Life Time Spec Tabletop Spectrometer |

- P16 Federico Pozzi**
Installation and tests of a laser system for excitation experiments of positronium
- P17 Dejan Prokop**
Defects in novel thermoelectric complex nitride thin films prepared by magnetron sputtering
- P18 Igor Prozheev**
Various defects in AlGaN with varying Al content
- P19 Yuhi Sada**
Dependence of the Ps^- yields emitted from Na-coated W on the electron work function of the surface
- P20 Waldemar Särs**
Positron annihilation spectroscopy characterization of monolayer graphene on 4H-SiC
- P21 Fabian Schmidt**
Development of a Target Chamber for the pulsed high energy positron system (PHEPS)
- P22 Vitus Michael Schuster**
Development of an additively manufactured 1.3 GHz cavity for PLEPS
- P23 Martin Singer**
The pulsed positron laboratory Munich
- P24 Aryaveer Singh**
UV illumination induced positron trapping in $\beta\text{-Ga}_2\text{O}_3$
- P25 Erika Socal**
Study of positronium lifetime in microcavities connected to a network of nanochannels
- P26 Torsten E.M. Staab**
Performance of the Newly Developed LifeTimeSpec for Multi-Component Spectra Analysis in Positron Lifetime Spectroscopy (PALS)
- P27 Maximilian Suhr**
Investigation of positronium formation in solids at the low-energy threshold
- P28 Akiho Tanaka**
Measurement of the correlation between the radial and axial velocity components of positronium by time-resolved Doppler spectroscopy
- P29 Tim Tjardts**
Surface Spectrometer for Structure and Element Analysis with Topmost Layer Selectivity Using Positron Beams
- P30 Jagoda Urban-Klaehn**
Testing the Newly Developed LifeTimeSpec's Performance with Commonly used Analysis Software for Positron Lifetime Spectroscopy (PALS)
- P31 Matteo Vicini**
Numerical dosimetry of low-energy positron beams for non-destructive spectroscopy of living biological samples
- P32 Ya-Ru Wang**
Towards direct detection of halide vacancy defects and photo-ionic effects in halide perovskites by positron annihilation spectroscopy: a proposal
- P33 Xi Wen**
Defects in GaN grown under different growth conditions

P34

Hermann Winter

Additive manufacturing of an optimized 1.3 GHz single-cell cavity for high-gradient tests

P35

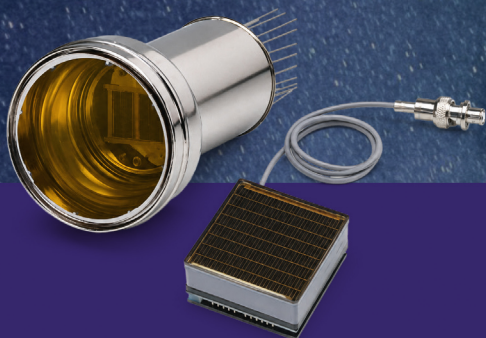
Daisuke Yoshida

Applications of electron-positron correlation-polarization potential method to molecular systems

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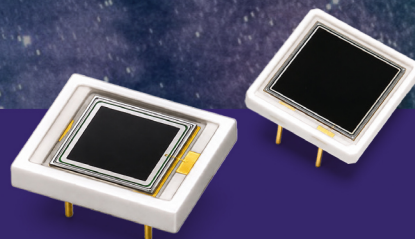
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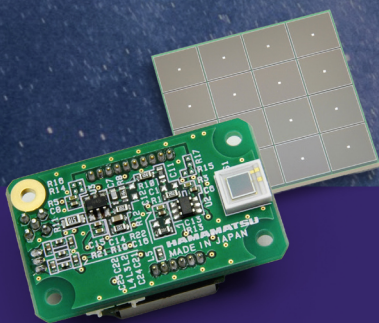
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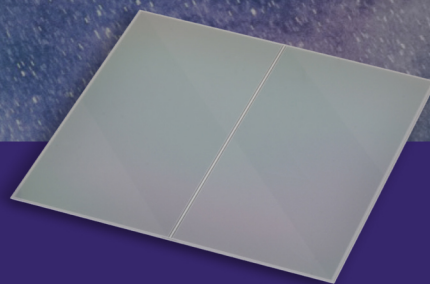
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