

Material characterisation

Optical Microscope

| Type of equipment | Name of equipment | Location | Contact person | Link to more information |
|---------------------------|--------------------------------|----------|------------------------------------|-----------------------------------|
| Optical microscope | Wild Heerbrugg | A-443 | Trygve L. Schanche | |
| Optical microscope | Leica MEF4M | E-514 | Trygve L. Schanche | |
| Optical microscope | Reichert-Jung Univar | E-514 | Trygve L. Schanche | |
| Optical microscope | Makroskop Leitz M400 | E-508 | Trygve L. Schanche | |
| Optical microscope | Leitz MM6 | E-508 | Trygve L. Schanche | |
| Optical microscope | Zeiss Axiovert 25 | E-508 | Trygve L. Schanche | Zeiss Axiovert 25 |
| Optical microscope | Leitz metalloplan | E-508 | Trygve L. Schanche | |
| Optical microscope | Leitz 1A | E-508 | Trygve L. Schanche | |
| Optical microscope | Reichert MEF1 | E-508 | Trygve L. Schanche | |
| Optical microscope | Leitz Metallux 3 | E-514A | Trygve L. Schanche | Leitz Metallux 3 |
| Videokamera (2 stk) | JVC TK-S310 EG | KII-014 | Trygve L. Schanche | |
| Videokamera til mikroskop | Leica R3 electr. | E-514A | Trygve L. Schanche | |
| Optical microscope | Leitz Axioskop | E-514A | Trygve L. Schanche | Leitz Axioskop |
| Optical Microscope | Nikon SM2800 | KII-323 | Eli Beate Larsen | |
| Optical Microscope | Leica DM IRM | KII-323 | Eli Beate Larsen | |
| Optical microscope | Zeiss | KII-003A | Magnus B. Følstad | |
| Optical microscope | Leica DMIL | KII-022 | Kara Poon | |
| Optical microscope | Olympus BH-2 | KII-032A | Stein Rørvik (SINTEF) | |
| Optical microscope | Reichert MeF3A med Sony kamera | KII-032A | Stein Rørvik (SINTEF) | |
| Optical microscope | Olympus BX60 | KII-032A | Stein Rørvik (SINTEF) | |
| Optical microscope | Leica EZ4 | KII-034B | Sergey Khromov | |
| Optical microscope | Wild Heerbrugg | KII-011 | | |
| Optical microscope 3D | Alicona Infinite Focus | KII-032A | Kara Poon | |

Electron microscope

 [More information on SEM - TEM](#)

| Type of equipment | Name of equipment | Location | Contact person | Link to more information |
|------------------------------|---|----------|--------------------------------|--------------------------|
| Scanning Electron Microscopy | FE-SEM with Bruker EDS/NORDIF EBSD system Hitachi SU6600 | F-362 | Yingda Yu | |
| Scanning Electron Microscopy | FE-SEM with Bruker EDS/NORDIF EBSD system Zeiss Ultra 55 | F-362 | Yingda Yu | |
| Scanning Electron Microscopy | SEM with Nordif EBSD system JEOL JSM 840A | F-362 | Yingda Yu | |
| Scanning Electron Microscopy | SEM with Gatan CL system JEOL JSM 840 | F-369 | Yingda Yu | |
| Scanning Electron Microscopy | SEM with JEOL EDS system JEOL JSM 6010LA | F-369 | Yingda Yu | |
| Scanning Electron Microscopy | FE-SEM with EDAX EDS system Zeiss Supra 55VP | F-369 | Yingda Yu | |
| Scanning electron microscopy | Hitachi S-3400N | KII-036 | Sergey Khromov | |

Scanning probe microscope

| Type of equipment | Name of equipment | Location | Contact person | Link to more information |
|-------------------------------|---|----------|-----------------------------------|--------------------------------------|
| Electron Micro Probe Analyzer | FE-EPMA with JEOL WDS system JEOL JXA 8500 | F-373 | Morten Raanes | |
| Scanning probe microscope | Agilent 5500 AFM/SPM microscope | KII-003A | Magnus B. Følstad | About the instrument |

Transmission electron microscopy

 [More information on SEM - TEM](#)

| Type of equipment | Name of equipment | Location | Contact person | Link to more information |
|---------------------------|-------------------|----------|---------------------------|--------------------------|
| TEM with Gatan GIF system | JEOL TEM 2010 | F-368 | Yingda Yu | |

Thermal analysis

| Type of equipment | Name of equipment | Location | Contact person | Link to more information |
|-------------------|--|----------|--------------------------------|---|
| Thermal analysis | DTA/TGA Setaram Sensis | A-K032 | Sarina Bao (SINTEF) | |
| Thermal analysis | Electrical conductivity furnace | KII-103 | Pei Na Kui | |
| Thermal analysis | NETZSCH dilatometer 402C, thermal analysis | KII-103 | Babak Khalaghi | Dilatometer |
| Thermal analysis | NETZSCH STA F3 449 Jupiter (Hugin) | KII-103 | Babak Khalaghi | Simultaneous Thermal Analysis |
| Thermal analysis | NETZSCH STA C 449 Jupiter, (Munin) | KII-103 | Babak Khalaghi | Simultaneous Thermal Analysis combined with mass spectrometry |
| Thermal analysis | LINSEIS STA PT 1600, (Linseis) | KII-103 | Babak Khalaghi | Simultaneous Thermal Analysis |
| Thermal analysis | NETZSCH dilatometer 402E | KII-103 | Ove Darell (SINTEF) | |
| Thermal analysis | NETZSCH DSC 214 Polyma | KII-103 | Babak Khalaghi | DSC 214 Polyma |
| Thermal analysis | Optisk dilatometer-Expert system | KII-103 | Anne Støre (SINTEF) | |
| Thermal analysis | LFA Microflash, termisk diffusivitet | KII-103 | Anne Støre (SINTEF) | |
| Thermal analysis | Dilatometer | KII-303 | Anne Støre (SINTEF) | |

Spectroscopy

| Type of equipment | Name of equipment | Location | Contact person | Link to more information |
|---|---|----------|-----------------------------------|--------------------------|
| Spectroscopy | GD-OES | KII-307 | Mariia Stepanova | |
| Spectroscopy Element Analysis | GD-MS | E-208 | Chiara Modanese | |
| Mass spectrometer + potensiostat | Differential Electrochemical Mass Spectrometry (DEMS) station | KII-323 | Magnus B. Følstad | |
| UV-vis/NIR spectrophotometer + potensiostat | Photoelectrochemical station | KII-001 | Magnus B. Følstad | |
| FTIR spectrometer | Bruker Vertex 80v | KII-323 | Magnus B. Følstad | |

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| Raman microscope | WITec alpha300 R | KII-323 | Magnus B. Følstad | |
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Surface and particle analysis

| Type of equipment | Name of equipment | Location | Contact person | Link to more information |
|--|---|-------------------------|-----------------------------------|---|
| Surface and particle analysis | PSA Malvern 2000 | KII-107 | Elin Albertsen | |
| Surface and particle analysis | TRISTAR 3000 surface area and porosity analyzer | KII-107 | Elin Albertsen | BET |
| Surface and particle analysis | Permeabilitet | KII-303 | Anne Støre (SINTEF) | |
| Zetapotential and particle size analyzer | Beckman Coulter DelsaNano C | KII-223 | Magnus B. Følstad | Description, terms of use & user manual |
| Surface analyzer | Drop Shape Analyzer - DSA100 | KII-321 | Anita Storsve | Description |
| Laser scattering particle size analyzer | Horiba LA-960 Partica | KII-107 | Johannes Ofstad | Description |
| Micro Scratch Tester | ST Instruments B A | KII-321 | Anita Storsve | |

XRD

 [More information about the XRD lab](#)

| Type of equipment | Name of equipment | Location | Contact person | Link to more information |
|-------------------|---|----------|---------------------------------|------------------------------------|
| XRD | Routine Powder Diffractometer (DaVinci1) | KII-113 | Contact person | Routine powder XRD |
| XRD | Powder diffractometer (D8 Focus) | KII-113 | Contact person | 9-pos Powder XRD |
| XRD | Siemens D5005 with monochromator (A-unit) | KII-113 | Contact person | Siemens D5005 |
| XRD | Multipurpose Powder X-ray diffractometer (DaVinci2) | KII-113 | Contact person | Multipurpose XRD |
| XRD | Non-ambient X-ray diffractometer (D8 Advance) | KII-113 | Contact person | Non-ambient XRD |
| Texture Analysis | X-ray diffractometer | A-347 | Håkon Wiik Ånes | XRD |

Solar cell silicon characterisation

| Type of equipment | Name of equipment | Location | Contact person | Link to more information |
|--|--|----------|----------------------------------|--------------------------|
| Si - Characterisation | Nicolet 6700 FT-IR | M-104 | Chiara Modanese | |
| Si - Characterisation | μLPCD resistivity life time measurment | M-104 | Gaute Stokkan (SINTEF) | |
| Si - Characterisation | SiWaScan | M-104 | Gaute Stokkan (SINTEF) | |
| Si - Characterisation | micro cracks characterisation | M-104 | Kai Erik Ekstrøm | |
| Si - Characterisation Crystal defect mesurment | PVSCAN 6000 | M-104 | Gaute Stokkan (SINTEF) | |
| Si - Characterisation Density Imaging | CDI-Carrier | M-104 | Gaute Stokkan (SINTEF) | |

Electrical resistivity measurement

| Type of equipment | Name of equipment | Location | Contact person | Link to more information |
|----------------------------------|-------------------|----------|------------------------------------|--------------------------|
| Resistivity measurement (metals) | Sigmascope | E-508 | Trygve L. Schanche | |