

Charakterisierung des Detektors/Mikroskops (Wiederholung)

Date: 2020-12-07

Created by: Jonas Eichhorn

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Charakterisierung des Detektors und Mikroskops am WiTec

Wie ändert sich ein Weißlichtspektrum für verschiedene linearpolarisierte Lichtquellen? Es soll herausgefunden werden, wie stark sich das Messsignal des Detektors für verschiedene Ausrichtung der Polarisationssebene von linear polarisiertem Licht unterscheidet.

Aufbau

Aufbau1: Eine Weißlichtlampe wird mit einem Depolarisator und anschließend mit einem Linearpolarisator versehen. Das linear polarisierte Licht wird durch das Mikroskop des WiTec in eine Faser gekoppelt, die mit dem Detektor verbunden ist.

Aufbau2: Die Weißlichtlampe wird mit dem Depolarisator verbunden. Das Weißlicht wird ohne Faser im Freespace in den Detektor gekoppelt. Der Linearpolarisator steht zwischen Detektor und Depolarisator.

Aufbau	
Ramanspektrometer	WiTec (ZAF)
Linearpolarisator	P3
Depolarisator	ThorLabs DPP25-A
Faser	F3

Messung

Für verschiedene Positionen des Linearpolarisators wird ein Ramanspektrum der polarisierten Weißlichtlampe aufgenommen. Es wurden auch Spektren ohne Linearpolarisator aufgenommen. Sie sind nicht in der Tabelle gelistet, aber trotzdem im Anhang.

Messdaten Mit Mikroskop		
Position Linearpolarisator / °	Ramanspektrum	Metadaten Ramanspektrum
0	P000deg_microscope_000_Spec.Data-1.txt	P000deg_microscope_000-Information.txt
10	P010deg_microscope_000_Spec.Data-1.txt	P010deg_microscope_000-Information.txt

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20	P020deg_microscope_000_Spec.Data-1.txt	P020deg_microscope_000-Information.txt
30	P030deg_microscope_000_Spec.Data-1.txt	P030deg_microscope_000-Information.txt
40	P040deg_microscope_000_Spec.Data-1.txt	P040deg_microscope_000-Information.txt
50	P050deg_microscope_000_Spec.Data-1.txt	P050deg_microscope_000-Information.txt
60	P060deg_microscope_000_Spec.Data-1.txt	P060deg_microscope_000-Information.txt
70	P070deg_microscope_000_Spec.Data-1.txt	P070deg_microscope_000-Information.txt
80	P080deg_microscope_000_Spec.Data-1.txt	P080deg_microscope_000-Information.txt
90	P090deg_microscope_000_Spec.Data-1.txt	P090deg_microscope_000-Information.txt
100	P100deg_microscope_000_Spec.Data-1.txt	P100deg_microscope_000-Information.txt
110	P110deg_microscope_000_Spec.Data-1.txt	P110deg_microscope_000-Information.txt
120	P120deg_microscope_000_Spec.Data-1.txt	P120deg_microscope_000-Information.txt
130	P130deg_microscope_000_Spec.Data-1.txt	P130deg_microscope_000-Information.txt
140	P140deg_microscope_000_Spec.Data-1.txt	P140deg_microscope_000-Information.txt
150	P150deg_microscope_000_Spec.Data-1.txt	P150deg_microscope_000-Information.txt
160	P160deg_microscope_000_Spec.Data-1.txt	P160deg_microscope_000-Information.txt
170	P170deg_microscope_000_Spec.Data-1.txt	P170deg_microscope_000-Information.txt
180	P180deg_microscope_000_Spec.Data-1.txt	P180deg_microscope_000-Information.txt
225	P225deg_microscope_000_Spec.Data-1.txt	P225deg_microscope_000-Information.txt
270	P270deg_microscope_000_Spec.Data-1.txt	P270deg_microscope_000-Information.txt
315	P315deg_microscope_000_Spec.Data-1.txt	P315deg_microscope_000-Information.txt
360	P360deg_microscope_000_Spec.Data-1.txt	P360deg_microscope_000-Information.txt
Messdaten Ohne Mikroskop		
Position Linearpolarisator / °	Ramanspektrum	Metadaten Ramanspektrum
0	P000deg_freespace_000_Spec.Data-1.txt	P000deg_freespace_000-Information.txt
10	P010deg_freespace_000_Spec.Data-1.txt	P010deg_freespace_000-Information.txt
20	P020deg_freespace_000_Spec.Data-1.txt	P020deg_freespace_000-Information.txt
30	P030deg_freespace_000_Spec.Data-1.txt	P030deg_freespace_000-Information.txt
40	P040deg_freespace_000_Spec.Data-1.txt	P040deg_freespace_000-Information.txt
50	P050deg_freespace_000_Spec.Data-1.txt	P050deg_freespace_000-Information.txt
60	P060deg_freespace_000_Spec.Data-1.txt	P060deg_freespace_000-Information.txt
70	P070deg_freespace_000_Spec.Data-1.txt	P070deg_freespace_000-Information.txt
80	P080deg_freespace_000_Spec.Data-1.txt	P080deg_freespace_000-Information.txt
90	P090deg_freespace_000_Spec.Data-1.txt	P090deg_freespace_000-Information.txt
100	P100deg_freespace_000_Spec.Data-1.txt	P100deg_freespace_000-Information.txt

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110	P110deg_freespace_000_Spec.Data-1.txt	P110deg_freespace_000-Information.txt
120	P120deg_freespace_000_Spec.Data-1.txt	P120deg_freespace_000-Information.txt
130	P130deg_freespace_000_Spec.Data-1.txt	P130deg_freespace_000-Information.txt
140	P140deg_freespace_000_Spec.Data-1.txt	P140deg_freespace_000-Information.txt
150	P150deg_freespace_000_Spec.Data-1.txt	P150deg_freespace_000-Information.txt
160	P160deg_freespace_000_Spec.Data-1.txt	P160deg_freespace_000-Information.txt
170	P170deg_freespace_000_Spec.Data-1.txt	P170deg_freespace_000-Information.txt
180	P180deg_freespace_000_Spec.Data-1.txt	P180deg_freespace_000-Information.txt
225	P225deg_freespace_000_Spec.Data-1.txt	P225deg_freespace_000-Information.txt
270	P270deg_freespace_000_Spec.Data-1.txt	P270deg_freespace_000-Information.txt
315	P315deg_freespace_000_Spec.Data-1.txt	P315deg_freespace_000-Information.txt
360	P360deg_freespace_000_Spec.Data-1.txt	P360deg_freespace_000-Information.txt

Attached files:

P315deg_freespace_000-Information.txt
sha256 : f20edf2bf2917db07e925b6b33d17291b759e326a98e1142954eeb8616306d1c

P000deg_freespace_000-Information.txt
sha256 : f535fd82641d2ad498992a2d0d66a5e4fc71024e9ff3bc7ec19081c811e92196

P110deg_freespace_000_Spec.Data-1.txt
sha256 : da880b30443bf0be2cf0ac51a244fef6ea7942ba6315d4d3ba0010a3fc14670e

P170deg_microscope_000-Information.txt
sha256 : b6b094879a211f69ae957127785185dac51635448eefd4604b19b5dec2c94760

P010deg_freespace_000_Spec.Data-1.txt
sha256 : 26c6a725fb53c1bca560bcb354aad78cca9dcc260010cd10de8b5a2765620f2c

P130deg_microscope_000-Information.txt
sha256 : 99fc8cb30d2ebec420e3ccc757bb678281d0252007e7469c4085e967e4173d87

P040deg_freespace_000_Spec.Data-1.txt

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sha256 : ff9e19e6484d9fd6a4991b10753378fbaeaada416e5926bda270e18bdde5d7a5

P360deg_freespace_000-Information.txt

sha256 : 59733da73aa972377f1ea486a91d2811afdf149941dfdb5b8e2318de4bde19a2

P270deg_microscope_000_Spec.Data-1.txt

sha256 : 0b4cf3815aea64219dbb2c501e9df9c7f23f8be641f55144b0c744b242811ee1

P040deg_freespace_000-Information.txt

sha256 : a37613aaae3b57755c1a4b5da477385fbd7037d25948105324a13a2fe5b60526

P090deg_freespace_000-Information.txt

sha256 : 41d44da3ccea69c4ddc6e0da19ee3dbe76f3ce83c4c033a0135eed63fb7bfbd1

P180deg_freespace_000-Information.txt

sha256 : ae1dcb1bac8b079d952da24e66909c391b47bf227791d5c9fb17156f141d6933

P130deg_freespace_000-Information.txt

sha256 : 8afce09b4faac78d777a96129bfa1dc252ba1e7d95dcd045eefd352c9b01b655

P315deg_freespace_000_Spec.Data-1.txt

sha256 : b3905e65be50a248dd1743de3614320c09935b62354f874e1d0c433931b5a363

P270deg_freespace_000_Spec.Data-1.txt

sha256 : 5e210ec1662bd304d3af36d7047c5944f4df12cfc1e5c6c9f8e53665f9403762

P170deg_freespace_000-Information.txt

sha256 : 168378fdd99245dd4b31110e74866cc248ef8259a44e85db8f1b6a02506095ac

P225deg_freespace_000_Spec.Data-1.txt

sha256 : 1d7a7d15e931545bea1b0028c6d1ab703d00a7cd6ba047d52effd4c7b3b1b4a8

P160deg_freespace_000_Spec.Data-1.txt

sha256 : f4d82271e155cc8d8e17b0776c63a84827284526e5ae6011eaec4daabf2f4fe9

P315deg_microscope_000_Spec.Data-1.txt

sha256 : 8dce90331775d1d2e679f75406422c451910fc9c581462a9879a0f7350d4aafa

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P150deg_freespace_000_Spec.Data-1.txt
sha256 : 62d8704cab761dd4d947a90eae6d963ae5e84551fbb8b0a20c786887fa795fc4

P040deg_microscope_000-Information.txt
sha256 : 101e0f3f5ba80dbb7bbd09fd01dd9223b73934216f102377a06fb6ae817e5e01

P030deg_freespace_000_Spec.Data-1.txt
sha256 : 5f4371ae8f087faa30f699782edac080e90b8a712c16b898d31ce6177d0b6ddf

P180deg_microscope_000_Spec.Data-1.txt
sha256 : 35a74ae22d0928caaa895013aa7b47ce58baec22327fbcaed44705d399f991b3

P060deg_microscope_000_Spec.Data-1.txt
sha256 : 2d1f2231a19b7624f6be3eb3f39d5a48136f0679bc5184dfe4d11d578d95bd20

P050deg_microscope_000-Information.txt
sha256 : 61baf1a7fc933af914a68c66ed014a9867bd24c341586b45e94ae0ebf02427d1

P080deg_microscope_000_Spec.Data-1.txt
sha256 : a4b35085cdc8b2ab89c4b93773f2fba5c057a0d74d2bd87aa4b4812dc251cdb3

P080deg_freespace_000-Information.txt
sha256 : f4d622937b8b240af9995501903dce8f554bbae84bcae41c9ed5acad9e7083d4

P060deg_freespace_000-Information.txt
sha256 : eeff2ebb3fd476c4182f0fa5085d19439b2aa91af9766a8b21e061ad20206b60

P070deg_microscope_000-Information.txt
sha256 : 107d8aca42698674aaf031635f417244916861777a5daf8e64a599f7a2898cd3

P150deg_microscope_000-Information.txt
sha256 : f36bbabc5739368d062af4c5448b092499ca956a694512da4658cac3312a46a6

P070deg_microscope_000_Spec.Data-1.txt
sha256 : 2bcfc5553127c1d1bdb9bbd9f7b55f8d84500738cdf229884ac3e2c3d99512a5

P010deg_freespace_000-Information.txt

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sha256 : 488448f779afb8d1aadf28fff2c6a9bbbed72f68465cd3c558a8786d4435bae13

P100deg_microscope_000-Information.txt

sha256 : ad045fa2fd25f00bdc2e34cc9ac290fe3757d9932e7ab459db8c3a5cbcc1934b

P090deg_microscope_000-Information.txt

sha256 : 9a1067eee42a85ac5f910be8fd4abf30ec4b24bd8a0f9e4b32c81c81e49b7f1b

P315deg_microscope_000-Information.txt

sha256 : 2bf6bfa1f7828de5b265f717a0c47cda11873075301a5e19eb825a7827ecfd3f

P010deg_microscope_000_Spec.Data-1.txt

sha256 : e56d7d51af49fcb4e7cb6cc7c678364502acbb54f3520f686eac37d4e39edf62

P360deg_microscope_000-Information.txt

sha256 : e11b58cd4af39d4bc159dcc8176c05d4b82acd0f9e84e6a1ecf3d9c7ba606640

P120deg_freespace_000_Spec.Data-1.txt

sha256 : bfa2a9fae2e32843fea892ccd4dbe426a9c11a81e73a5226e1ed5c4baeb6e23a

P160deg_freespace_000-Information.txt

sha256 : 97f7478d95f1232ba89c57a65ec7c60a3c9aaa3bbeb6cfcde5c97e62cb9db1ab

P020deg_microscope_000_Spec.Data-1.txt

sha256 : 1e058689129c401a3a8ffefd5867e506450a252f1d6027bb6528406fcf730959

P160deg_microscope_000-Information.txt

sha256 : 5c598b3e11d12ab8b8d6e3c2a112a91e8892e48cef01c161279dc6410bca7c8a

P360deg_freespace_000_Spec.Data-1.txt

sha256 : 1ad1a2df224893969bebf9b080f8fc95bd8bd173ff5787675a6600ff30c3819f

P120deg_microscope_000-Information.txt

sha256 : 00036bbc609106856547a0308c61cccd1f039b3c8dca5d7693c1bb3070163e6a

P000deg_microscope_000_Spec.Data-1.txt

sha256 : 36e047cb9f4467650d2f1b5cea9c63177592b1ac7971ed3c3a9f0067059360d0

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P140deg_freespace_000_Spec.Data-1.txt
sha256 : 9195b01adf73fb014f3454cf5531de8975fa911511d21844bd146f87af324e00

P050deg_microscope_000_Spec.Data-1.txt
sha256 : c8a93bfa89d7e97b43b01d5b2bdbe6f653cf1f32c67ab309bd51394af411adcb

P140deg_microscope_000_Spec.Data-1.txt
sha256 : 2a16159a75a054e6a076d4f1dc50b2a7226467d21f2ea69f9b72e92cbf42e196

P110deg_microscope_000-Information.txt
sha256 : e6e7fe65b423133b398f23b53431b5606c1476971cf4ac627e743b9b7fefbfb7

P040deg_microscope_000_Spec.Data-1.txt
sha256 : f593c7ff9e61742d952f5ac4863f311eb50d560b2632be121fd9a41b03edfa4e

P110deg_freespace_000-Information.txt
sha256 : f4193ff561c8bb9bc59d8f54a99a5119527045e51608dc7fcd6ecae1497d764e

P150deg_freespace_000-Information.txt
sha256 : 892568be0a60e6cc7ca470b6994c539dcd515ffbadd3f53eac40379ad3da8c02

P140deg_freespace_000-Information.txt
sha256 : 6f2b99303ee6f29d3920d17894438c98fecab8f00842c3af73c3a899def9c425

P130deg_freespace_000_Spec.Data-1.txt
sha256 : 623070b7c8caed7e8a3a43dce50e8b041d3053620eda4f22cdbac2b74b06da65

P110deg_microscope_000_Spec.Data-1.txt
sha256 : ad5576996bdc9193ba4c0b9dbb24834a224015fe9e59147d72bbf8865ed02785

P225deg_microscope_000_Spec.Data-1.txt
sha256 : de69ef34879b8bd81f247db47a4728d76f18eef107c9a57c2eed6074d5e1f34a

P000deg_freespace_000_Spec.Data-1.txt
sha256 : 4b0afd237cf35c2dae5234f8dfcf1e1348b4b782955dbc30deaafc727ed4589c

P170deg_microscope_000_Spec.Data-1.txt

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sha256 : e5ef8540696d634418abc163e7dececd5361fe017ce6f6247d5e1dbdc0629dec

P070deg_freespace_000_Spec.Data-1.txt

sha256 : f9219e695ce9084572d35830826f9284fc0a238ffb55debf40aca6578c0b081c

P000deg_microscope_000-Information.txt

sha256 : 6322abb296a79eb5f701d5106b70335ddb79eadffc553a834a444620828d65e9

P030deg_microscope_000-Information.txt

sha256 : d08bedead38f9b767984d793017ccebfbda772d21d9ae6ef03154dd30e104fdf

P140deg_microscope_000-Information.txt

sha256 : 8478c035d8bcbb5b693d5090d0cf4b6ab507032df291c2659850ccaa232386e5

P120deg_freespace_000-Information.txt

sha256 : c448bc1368f697aa759eb7ea32f68373194b0b9158c53e1fef6f47f230683bcb

P080deg_microscope_000-Information.txt

sha256 : 026ff5462ca206fe38916aef39806d782e268cd0eec6ee654f07f571a1752ee3

P080deg_freespace_000_Spec.Data-1.txt

sha256 : 521cc454816648c1215d27e5898e12b8218ca6837c90d982c65c13216edb1126

P100deg_freespace_000_Spec.Data-1.txt

sha256 : a7ff2c24d967e42451a8a955bfc95dded259e7cd0b81f91b00fae211fa853760

P060deg_microscope_000-Information.txt

sha256 : 27efe95471e08f8e2689d73da042eaf47e185e09f8ce08a6d2d82442750c59cf

P270deg_microscope_000-Information.txt

sha256 : 9f4791820da077ef18b729ac837a0a4146dfd0b28621c7de2ec47ecd3a81ba5e

P010deg_microscope_000-Information.txt

sha256 : 02d09eecb3c00d2a60e00c76fcb811c93d570e124f7290ef04f8218d16fb3951

P120deg_microscope_000_Spec.Data-1.txt

sha256 : f2a87dc3461c3d75a23211338bf3013eda1263d8ce8dfe390d5726a23c76ea20

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P180deg_freespace_000_Spec.Data-1.txt
sha256 : 0668bbfd9c47e44f8f97ed89333532071723d9c049a21de101bb5a56a0148c42

P225deg_microscope_000-Information.txt
sha256 : f9178cc7d63dadf9a22a26ef5ad5176d797b373a828a3925b034a772686cd45b

P130deg_microscope_000_Spec.Data-1.txt
sha256 : cf5c9a9f6ca21ffdcfe08ba8edfeae45924643226b6fc87202ca60154fcd9714

P150deg_microscope_000_Spec.Data-1.txt
sha256 : 3a6d5cec767914e2c35c1b360c8abf5e0656e39a52068bd96415ca345d90ef56

P050deg_freespace_000-Information.txt
sha256 : ee173dce780330b1dcf9ef0cae54c740770645644552d95b862802bdf4e3d7d3

P070deg_freespace_000-Information.txt
sha256 : c22cf818d07a9850e81e1feef620a21df58f84338c9d258dfd91f9d6eacbdd7

P090deg_freespace_000_Spec.Data-1.txt
sha256 : d43ff0a116f19acd8c14e241e8a668ec6cac67375e0eb42a3e5b9df60ff60fdc

P100deg_freespace_000-Information.txt
sha256 : 050a59a16dca84321b5208186e83d2497fcd2020257a736e304e92fcd623dd7d

P360deg_microscope_000_Spec.Data-1.txt
sha256 : ad58e0aecfe93fe3498cf5c671d37e30835b7d496062a75d3e188317d1b6e130

P180deg_microscope_000-Information.txt
sha256 : 9f999a6d200136de302c297d0df2fa975b56b0f298f25857f5460419e85ceae8

P270deg_freespace_000-Information.txt
sha256 : 714458c02f2f93af02570ea249ada508d74827fe74d6f741f139183b3a1058d4

P060deg_freespace_000_Spec.Data-1.txt
sha256 : 573a5045a46bd57f476fd7e887285186ecd1b9024998f6135038260ca60161f1

P225deg_freespace_000-Information.txt

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sha256 : 68641c871c5f66171054a4dc0543410cf181d6dd02ac82c85bdeed7c0a733732

P090deg_microscope_000_Spec.Data-1.txt

sha256 : 83c676132e731c300cf1b4d880586ddc93de223e4524d884de8a142137b8d14a

P100deg_microscope_000_Spec.Data-1.txt

sha256 : d555fb41b2a28ff024362800e159306e6ecbb6a2a16ceffa429e1e46cb33ca7e

P030deg_microscope_000_Spec.Data-1.txt

sha256 : 366919a5157663f3ba75803493c2a22fb2e27164e07216a9cc6be372463b8a2c

P020deg_freespace_000-Information.txt

sha256 : 6d53af2cba83d291056a87247e89ba7d37112f08ca84ea366f5b8476e9c5d596

P170deg_freespace_000_Spec.Data-1.txt

sha256 : 03e556b7862be2866fd29f479f3b3ae31ba649a0902d32440cf2bae768d67bbe

P030deg_freespace_000-Information.txt

sha256 : 915572dd84c60102424867202adbfe7a1dc6995017649e06524a1b15bc1c647d

P050deg_freespace_000_Spec.Data-1.txt

sha256 : 36b17c77c78650fcf51e5b49797b048bf4860fac3fcc4af8c031d6404aab4e17

P160deg_microscope_000_Spec.Data-1.txt

sha256 : b8d12c907f0081db27baab0c236ce0641c8de81cf1e06b86058144548bc8105f

P020deg_microscope_000-Information.txt

sha256 : e195c5d1b0257fb7cdf2d0b85244f2976b23f16010a78c5941a7bffff32ad69f

P020deg_freespace_000_Spec.Data-1.txt

sha256 : e746d2f8356342441f16ee77bdfc8a7581c733c44cd516abb02014bcd68edcc8

noPolariser_freespace_000-Information.txt

sha256 : 1b0cb16ac6f24a4c799a2ec4c0e69f9837c2fd95e234baf9af44cf9fb3567cac

noPolariser_freespace_000_Spec.Data-1.txt

sha256 : 9bc60a7e56aa452a0d650087fff9c6d7df3ae7304c04982a8ea17ccd39afa9fc

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noPolariser_microscope_000_Spec.Data-1.txt

sha256 : 2e14e6c10d9371ca77fec559700e163fcde6d5a29211a1724b20d2b87dde07c1

noPolariser_microscope_000-Information.txt

sha256 : 46291e83edcb72f9d7057aabc0e4d790049e1b8504feaabde59b26943857283d



Unique eLabID: 20201207-4afbbfea1d4f712186bf0b6819a83e4870b9b07d
link : <https://elab.ipht-jena.de/experiments.php?mode=view&id=81>