

Charakterisierung des Detektors/Mikroskops

Date: 2020-11-23

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.

Messdaten Mit Mikroskop		
Position Linearpolarisator / °	Ramanspektrum	Metadaten Ramanspektrum
0	01-P000deg_000_Spec.Data-1.txt	01-P000deg_000-Information.txt
10	02-P010deg_000_Spec.Data-1.txt	02-P010deg_000-Information.txt
20	03-P020deg_000_Spec.Data-1.txt	03-P020deg_000-Information.txt
30	04-P030deg_000_Spec.Data-1.txt	04-P030deg_000-Information.txt

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40	05-P040deg_000_Spec.Data-1.txt	05-P040deg_000-Information.txt
50	06-P050deg_000_Spec.Data-1.txt	06-P050deg_000-Information.txt
60	07-P060deg_000_Spec.Data-1.txt	07-P060deg_000-Information.txt
70	08-P070deg_000_Spec.Data-1.txt	08-P070deg_000-Information.txt
80	09-P080deg_000_Spec.Data-1.txt	09-P080deg_000-Information.txt
90	10-P090deg_000_Spec.Data-1.txt	10-P090deg_000-Information.txt
100	11-P100deg_000_Spec.Data-1.txt	11-P100deg_000-Information.txt
110	12-P110deg_000_Spec.Data-1.txt	12-P110deg_000-Information.txt
120	13-P120deg_000_Spec.Data-1.txt	13-P120deg_000-Information.txt
130	14-P130deg_000_Spec.Data-1.txt	14-P130deg_000-Information.txt
140	15-P140deg_000_Spec.Data-1.txt	15-P140deg_000-Information.txt
150	16-P150deg_000_Spec.Data-1.txt	16-P150deg_000-Information.txt
160	17-P160deg_000_Spec.Data-1.txt	17-P160deg_000-Information.txt
170	18-P170deg_000_Spec.Data-1.txt	18-P170deg_000-Information.txt
180	19-P180deg_000_Spec.Data-1.txt	19-P180deg_000-Information.txt
225	20-P225deg_000_Spec.Data-1.txt	20-P225deg_000-Information.txt
270	21-P270deg_000_Spec.Data-1.txt	21-P270deg_000-Information.txt
315	22-P315deg_000_Spec.Data-1.txt	22-P315deg_000-Information.txt
360	23-P360deg_000_Spec.Data-1.txt	23-P360deg_000-Information.txt

Messdaten Ohne Mikroskop

Position Linearpolarisator / °	Ramanspektrum	Metadaten Ramanspektrum
0	01-freespace_P000deg_000_Spec.Data-1.txt	01-freespace_P000deg_000-Information.txt
10	02-freespace_P010deg_000_Spec.Data-1.txt	02-freespace_P010deg_000-Information.txt
20	03-freespace_P020deg_000_Spec.Data-1.txt	03-freespace_P020deg_000-Information.txt
30	04-freespace_P030deg_000_Spec.Data-1.txt	04-freespace_P030deg_000-Information.txt
40	05-freespace_P040deg_000_Spec.Data-1.txt	05-freespace_P040deg_000-Information.txt
50	06-freespace_P050deg_000_Spec.Data-1.txt	06-freespace_P050deg_000-Information.txt
60	07-freespace_P060deg_000_Spec.Data-1.txt	07-freespace_P060deg_000-Information.txt
70	08-freespace_P070deg_000_Spec.Data-1.txt	08-freespace_P070deg_000-Information.txt
80	09-freespace_P080deg_000_Spec.Data-1.txt	09-freespace_P080deg_000-Information.txt
90	10-freespace_P090deg_000_Spec.Data-1.txt	10-freespace_P090deg_000-Information.txt
100	11-freespace_P100deg_000_Spec.Data-1.txt	11-freespace_P100deg_000-Information.txt
110	12-freespace_P110deg_000_Spec.Data-1.txt	12-freespace_P110deg_000-Information.txt
120	13-freespace_P120deg_000_Spec.Data-1.txt	13-freespace_P120deg_000-Information.txt
130	14-freespace_P130deg_000_Spec.Data-1.txt	14-freespace_P130deg_000-Information.txt

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140	15-freespace_P140deg_000_Spec.Data-1.txt	15-freespace_P140deg_000-Information.txt
150	16-freespace_P150deg_000_Spec.Data-1.txt	16-freespace_P150deg_000-Information.txt
160	17-freespace_P160deg_000_Spec.Data-1.txt	17-freespace_P160deg_000-Information.txt
170	18-freespace_P170deg_000_Spec.Data-1.txt	18-freespace_P170deg_000-Information.txt
180	19-freespace_P180deg_000_Spec.Data-1.txt	19-freespace_P180deg_000-Information.txt
225	20-freespace_P225deg_000_Spec.Data-1.txt	20-freespace_P225deg_000-Information.txt
270	21-freespace_P270deg_000_Spec.Data-1.txt	21-freespace_P270deg_000-Information.txt
315	22-freespace_P315deg_000_Spec.Data-1.txt	22-freespace_P315deg_000-Information.txt
360	23-freespace_P360deg_000_Spec.Data-1.txt	23-freespace_P360deg_000-Information.txt

Attached files:

aufbau_detektorCharakterisierung_grossaufnahme.jpg

sha256 : c523e3979c9b36214003f11fb7d1e313d0050498e9867d9665d60ed8c82bb1e3



aufbau_detektorCharakterisierung_mikroskop.jpg

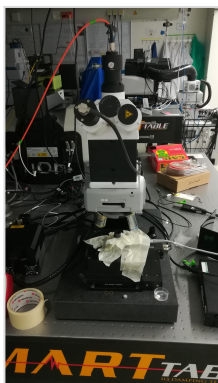
sha256 : 16821cc437482d2ca12833587162fb4c553bd9bfb744552bc57cf6079ae73758

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01-P000deg_000-Information.txt

sha256 : 31b0b5708637f8378fb2c27f0b01e70f06aae882f0c212bf353cf942ce7ab8d8

01-P000deg_000_Spec.Data-1.txt

sha256 : 1c0a7fb16e9d5fbfcb4197c25b8207fdf931ddc1fe9ab39905c91bc857ee222d

02-P010deg_000-Information.txt

sha256 : e5ae54b4aeb6e0c0ae3808fb1050bd6c2aef2d8f124ba80838bde79c6524425

02-P010deg_000_Spec.Data-1.txt

sha256 : 1994447b39759288fe231691979f6d3ca547e9bffff668d256be590654fddc14

03-P020deg_000_Spec.Data-1.txt

sha256 : 0426cce36173893a39f84f0142aa7f44fed7a3d6fe9fa919fde4dd50fe9ddca0

04-P030deg_000-Information.txt

sha256 : cc02eba4c5bfb2497c5903ed27157f5a26d26b6fac6278d06a9344c34ba0d577

04-P030deg_000_Spec.Data-1.txt

sha256 : d7c1ff33fb61958daf37fd593beadf0447c3917046182f549aee0119bcd97d80

05-P040deg_000-Information.txt

sha256 : 34a2597e6f6e3dd0b65fc81bdfa7ba7796fb59f262a56452b5fd397d7963beeb

05-P040deg_000_Spec.Data-1.txt

sha256 : 195b806d4e09c88c8befca94d837285bea4fd4e571e664ce0fdac2446f3bc76b

06-P050deg_000-Information.txt

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sha256 : 60fddd577c4dd43e1f098a4ff3f0589e6b4f04e6f67f2304650652f6e8e3682c

06-P050deg_000_Spec.Data-1.txt

sha256 : 94846f07aebfd7dd1716b96976d6aeb929051f71f8ae515c083a620ccc1bb570

07-P060deg_000-Information.txt

sha256 : 8aa26b2bcd6e4382bc36af04e11aaf39a24403de13b38734cfa3a75375b36ccf

07-P060deg_000_Spec.Data-1.txt

sha256 : ded58c8a6615c83102e22356aeb5ae518c66f7a5900adb1eda6c60565ec0a29f

08-P070deg_000-Information.txt

sha256 : cc8618dce26b933ca43bf21c260102f97e65ff737c5177f3da4f4835a646af36

08-P070deg_000_Spec.Data-1.txt

sha256 : 3c142999a67ba81de978dcc7d81c258aba307c1ba317d28309879ff7ab8a710

09-P080deg_000-Information.txt

sha256 : 32052adfe17748a230dc013bd87b85e007f5ddaa9cbdb5f10c4d99337e00b166

09-P080deg_000_Spec.Data-1.txt

sha256 : b2fe940c10ef63b92d1c10974fafeb80f985605f9b31afd18810afa7f303fe84

10-P090deg_000-Information.txt

sha256 : 6a37019fcfd3e29f5d4f28b3df668b32b728d1d027f5087ec2b1d063856277a4

10-P090deg_000_Spec.Data-1.txt

sha256 : 900c0dae64cfb5dc59bb153be701ba03e113a1726966b3a0ff349f90fe31b7d3

03-P020deg_000-Information.txt

sha256 : 849605edb2a0a922fb46dc3e1d4ab05a8827580ccd1b0ef244223c6256c1b436

11-P100deg_000-Information.txt

sha256 : 4cc12ce221713e284340dd8d5611b6145912ca5ce18e2c38ee61c1ea48fb195a

11-P100deg_000_Spec.Data-1.txt

sha256 : 62955b1a4d000d64955a3cec4ededd20960206f3668eb1c86756222525766157

12-P110deg_000-Information.txt

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sha256 : fb3b3f91296e137e85cb0fe50e2cfc227fb7cc108f017f96f6688674d317ca26

12-P110deg_000_Spec.Data-1.txt

sha256 : 49f1129d4f1577cb1f1a790cb49c8aaef96e184e565ba4d401cce3413abb8656

13-P120deg_000-Information.txt

sha256 : 5ab71f8503b074df2238a6672839d29673e826c5d55db154810e145c12b286ca

13-P120deg_000_Spec.Data-1.txt

sha256 : 6aa26e4355b4836bd577c1902b77498d4c39aa6155550bd150e24c804d97d63e

14-P130deg_000-Information.txt

sha256 : f6b26969df3ad1298d5f3bf8c00b3b7ba70c814cdbe6eff06aa1a1518888a799

14-P130deg_000_Spec.Data-1.txt

sha256 : f80c53c856c133de431a55e922d80711ed32fc972a9c7f3974f979eee92745fa

15-P140deg_000-Information.txt

sha256 : 938ae0c724c5e58d351f90451dfa335f5b5a579e5f9fb5f70e26024800d90159

15-P140deg_000_Spec.Data-1.txt

sha256 : 5382eadbc8e340bb7b9a2b251a9d38f1a2d95b1f6176e16f06c20e97b1794d69

16-P150deg_000-Information.txt

sha256 : a7a3f9e06b856835b4c83a261e2dbc801550271ded38c8b0002cc50467fb6f51

16-P150deg_000_Spec.Data-1.txt

sha256 : f12aecbed4ab1656e28a55e3ca838a83439f5b55a5f50faf2dd250363c9492a6

17-P160deg_000-Information.txt

sha256 : 61dc16a28d41c632f22fa366f5b38182f726fef869e7a15a674ab2412c60e6ea

18-P170deg_000-Information.txt

sha256 : 70b96ed24b414dad4b4f4e189eb2fe9d5880239a52313b712c103658f18dad3b9

17-P160deg_000_Spec.Data-1.txt

sha256 : 8d0fd37618bc2ebcc7620989b6ce90c04209acba105430ea8eb032939431cf56

19-P180deg_000-Information.txt

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sha256 : a62423b0d2420ec4b1e364d99dd1b33a4e8e1be6a421f960c93196a8898653fa

18-P170deg_000_Spec.Data-1.txt

sha256 : fc23af10f936f8ed57578ce3286231c588661abbf345108c8172e880c866e4f1

19-P180deg_000_Spec.Data-1.txt

sha256 : 889844e61dbae957bf9d464cfaeff144cc1af6cf20a6af3319b8891835581c5c

20-P225deg_000-Information.txt

sha256 : d10aac4003f118e5f5b251c752e6271e91bb38e444f20bf2c795b7c58ecce9e8

20-P225deg_000_Spec.Data-1.txt

sha256 : 7fc074b8079d45d7fa63c53bf29fe5a99c106b2842f61caeb2260479711033e

21-P270deg_000-Information.txt

sha256 : 194223dee6fa29dc5b418c2460c4149af87c791b01c0fd6350f9e5242fc43d9a

21-P270deg_000_Spec.Data-1.txt

sha256 : d68a328b996ec7ef42e0b5a9bff839b34f9c51a2d2f3cf84b0d29fa11b1a51d7

22-P315deg_000-Information.txt

sha256 : 642ec408165988e4c30d19287be1a125e133d47cdfaab6451ce2eb7f47e5c932

22-P315deg_000_Spec.Data-1.txt

sha256 : 6f3c37aadd36f0b097d8818518055b100eca05fa1ff705763f6bc9c8e412e264

23-P360deg_000-Information.txt

sha256 : 422d46cc8af988432546fd8039aef58cf36a5b19c4a2a86472a918101b314421

23-P360deg_000_Spec.Data-1.txt

sha256 : 1d7d9090c54217403bfa3688464765a370e5fa2ca639703e50cc549e1370c02b

aufbau_detektorCharakterisierung-freespace_nahaufnahme.jpg

sha256 : a1871849070f1a3af6d260a7688f0ebe94ed523e08fa8bb81cb7f3c408a3931a

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aufbau_detektorCharakterisierung-freespace_grossaufnahme.jpg

sha256 : 289e790fc163faeb000213efdc7ba84e45fcea04912e7a4dc3275bc68662b3bd



02-freespace_P010deg_000-Information.txt

sha256 : a7d8aea24ea636a30b47b8ddadf614cd7836901ab0c0740c50226af43b434a7d

03-freespace_P020deg_000-Information.txt

sha256 : b4850e248cf35ff48258a7b7dcdba5a5e2ae3d157e69f4bb4a5ae81ec81a37fb

04-freespace_P030deg_000-Information.txt

sha256 : d1af9dbe4acf77c5f25cf97d0d7e1fc7ad06b7655fd34127788b986d2dd89e0e

05-freespace_P040deg_000-Information.txt

sha256 : 8a7bb012fb6155aed53a482763976a28a2b144a7fe4ff9e082a19ced5eeea7da

06-freespace_P050deg_000-Information.txt

sha256 : 5c28a8596197d030c01502fa75d1a6a9540e8994d9e99a158f0c701d6e4cc6c6

07-freespace_P060deg_000-Information.txt

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sha256 : f051c6d49e35525bc5313fab786b2041f9dcfd24f55921de0a5c239af0e3bdb0

08-freespace_P070deg_000-Information.txt

sha256 : 404f95711110190213522761fef6c91421e66fd3876e4a678fe7584a5a73add2

09-freespace_P080deg_000-Information.txt

sha256 : ed476ef4abdc52860530b0af399483e721a0231c39191d4640ae36909d95d375

10-freespace_P090deg_000-Information.txt

sha256 : e29de6539ccc90d5a9bcedc64e9f641386a8503014dbbf874654dde3d013e4b7

11-freespace_P100deg_000-Information.txt

sha256 : e248e2980751cf4fe34940f107320c1be69953951a9d5dac547bf5731372e171

12-freespace_P110deg_000-Information.txt

sha256 : 6636f52f5994d68947fc8f43877533487e69afc3339a036383f7aee2bbb1c786

13-freespace_P120deg_000-Information.txt

sha256 : 3dc5057ae4ab1e21f2d6578cae070f4a20ab84495a56c501d65fbfe1f093c9f8

14-freespace_P130deg_000-Information.txt

sha256 : a24e98e56420b932cef90437d4d280c08350bbb0f9f3faa511746748b865f416

15-freespace_P140deg_000-Information.txt

sha256 : 4282cf1758f19910480e6cc2f15d73f3a4fa0fcaa9710b91ff1bc7945bb4060

01-freespace_P000deg_000-Information.txt

sha256 : de43c71bdf9859d317a57249b8779e704ce999cbc58e4927530bb5aa74cb2d81

16-freespace_P150deg_000-Information.txt

sha256 : 13bb627c17ce83136368c3ac636c4393baf83b478a62d4d82958ce1bffc6fb00

17-freespace_P160deg_000-Information.txt

sha256 : a1845e54d982d0ac25e55c965672e70d6ae734e44162c2a843ad547583ec0e03

18-freespace_P170deg_000-Information.txt

sha256 : c377fe73b4efb8ae7549e2f8496daae26563342264e1fc1b3902e7466957ad28

19-freespace_P180deg_000-Information.txt

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sha256 : 253254622fa444e1015073d3db39a73228483d041374964154d8afbb04f42042

20-freespace_P225deg_000-Information.txt

sha256 : 0f002019282e1f0cdfcad11f3db16e907b52f885f0db9e0493f40debba3348d4

21-freespace_P270deg_000-Information.txt

sha256 : 2698029cad40c4f47f1ec08884255982098e5255cf88ede85d2e81d24c9cfdeb

22-freespace_P315deg_000-Information.txt

sha256 : e749562153d4c233c49ea025034ebaebd7456fbc0387aaab9e649b787d28e2ab

23-freespace_P360deg_000-Information.txt

sha256 : 67382ee467899c07a83677c037b5678c83d40ca402c90af4f7fecf8da511270b

01-freespace_P000deg_000_Spec.Data-1.txt

sha256 : b15e875616f68290336ab53fee93f0ce07cf594a2004882f85f53db6dd2a1ffe

02-freespace_P010deg_000_Spec.Data-1.txt

sha256 : bc81e93f9660faa2bc3ebb459f7ab7919c6af3ad3856a45ce6560555ca2ef411

03-freespace_P020deg_000_Spec.Data-1.txt

sha256 : d997ab57cc57eccdac89ca4bfab4ae9477dd124a2ae6d4f597a65417788fb3dc

04-freespace_P030deg_000_Spec.Data-1.txt

sha256 : 02742462f5614afde94550b3d65fe2385aa1907f8f73da13fdacb7a58e4edc08

05-freespace_P040deg_000_Spec.Data-1.txt

sha256 : f1e2769974f10f6bc687d4850844433faead91a3aa3b3a2be4e9edccb04b0172

06-freespace_P050deg_000_Spec.Data-1.txt

sha256 : d9858cd05c4cd46737fc799179f7d36abc240fc880997eeda61ced5f4816199e

07-freespace_P060deg_000_Spec.Data-1.txt

sha256 : 9ab325591ffb6eb7463569dfaf73ccaa526c7ad55b28c940e3d4545e932b0d7c

08-freespace_P070deg_000_Spec.Data-1.txt

sha256 : 2e263dc7c9c099b4754f18abc2f9488132a011ae2bf30ec598e7893e11a34ba3

09-freespace_P080deg_000_Spec.Data-1.txt

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sha256 : 8c22f45e2f120317583aaa36de9440338506cce8debdcb4408dfc093fb927032

10-freespace_P090deg_000_Spec.Data-1.txt

sha256 : bfc3c792ff68f04d0a5f87b978f5f511d23d9a30f6e205b03e77f32b21044d7d

11-freespace_P100deg_000_Spec.Data-1.txt

sha256 : d643a2ed591b9c27138690e2f49281926ac896e3c497dbbd17c597ada376cc7a

12-freespace_P110deg_000_Spec.Data-1.txt

sha256 : eb80a4ef8f03bb0f3e13553b31034b750f4d6871f79bb1e07094bf5c0bc4a4a1

13-freespace_P120deg_000_Spec.Data-1.txt

sha256 : 3072eeecdf118556ff39e3bedba771b7a509ce23b249a6a9def21e405013a844

14-freespace_P130deg_000_Spec.Data-1.txt

sha256 : 95c448e18340faa967b82802cea9fc18f25cb61b0a709bb4bbdcc109a256bd57

15-freespace_P140deg_000_Spec.Data-1.txt

sha256 : d45b459e86ce277582e617973826de4916fe3778b5de968f94cab447140fd92d

16-freespace_P150deg_000_Spec.Data-1.txt

sha256 : 633e442ec6389722330a9448558f4120380c1538356e6c96b670cd47fdf4a1bc

17-freespace_P160deg_000_Spec.Data-1.txt

sha256 : 96fa3f88482e0905cee8306a2b07579014a677573eedfa0f7081135cc4967488

18-freespace_P170deg_000_Spec.Data-1.txt

sha256 : 4f2cc82c24f89a787b726f366342f95007682e69f5ddfab41fd0fbdbd60305a4

19-freespace_P180deg_000_Spec.Data-1.txt

sha256 : a125c7ec9d9a4579bc1c5b797cc99eda538c3b80c13f481df59848631ac28600

20-freespace_P225deg_000_Spec.Data-1.txt

sha256 : aad6f719c54a001248de35cc65e043e5d4bb0d4c73033daf359609bd6a1c3559

21-freespace_P270deg_000_Spec.Data-1.txt

sha256 : 9977d4b3c3f75302d70e469b01ac6918e7225900c44ae0a85d915684a8579fba

22-freespace_P315deg_000_Spec.Data-1.txt

Charakterisierung des Detektors/Mikroskops

Date: 2020-11-23

Created by: Jonas Eichhorn

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sha256 : f67b5c1bcfe49d1625a60fce542bc17d343bcdd6a4496aad32852157f58de1d3

23-freespace_P360deg_000_Spec.Data-1.txt

sha256 : 4cf32cb7bde6b682304c3f4e9289ca6859ecbc21bd928e2dfd07ac4ed467b1a2



Unique eLabID: 20201123-6390069621b0470ea3e5a7fbafef75f9b368135d
link : <https://elab.ipht-jena.de/experiments.php?mode=view&id=76>