

Cleaning of LI and optical fibers with new and fancy cleaning agents

December 2, 2021

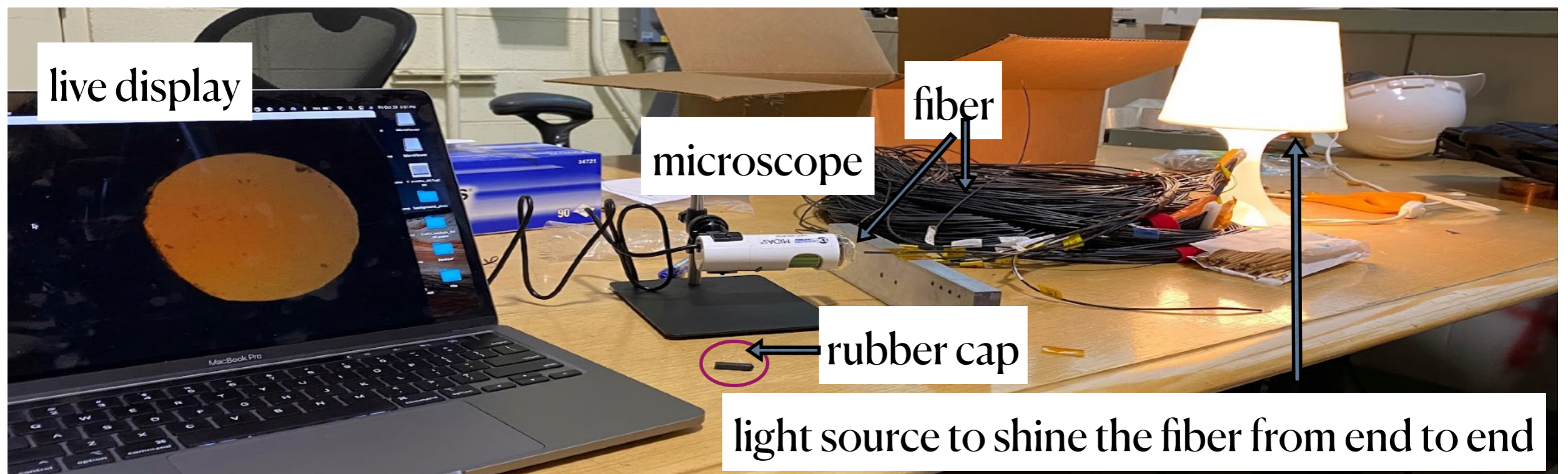
Faiza and Howard

Surface MINOS Hall



LI fibers for MINERvA 2x2

- It was hard to hold the fiber with hands because of the high magnification
- We used this make shift setup for the process
- We cleaned the fiber using Q-tips without any alcohol
- Plan is to clean the fibers with the special fiber cleaning wipes and spray and put the rubber caps on them secured with a tape till we need to put them on the detector.



Agents we used for cleaning



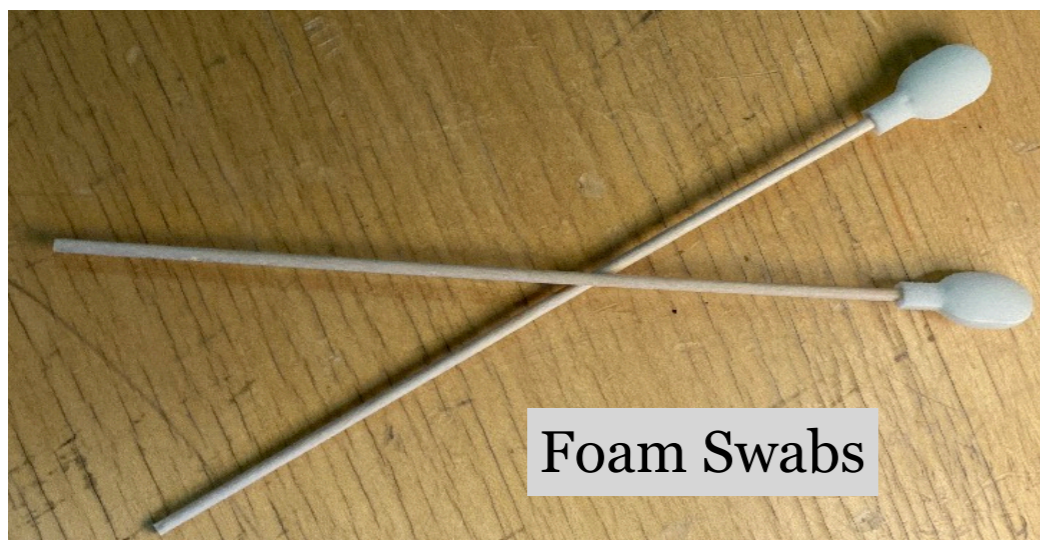
FiberClean



Cleaning liquid/spray



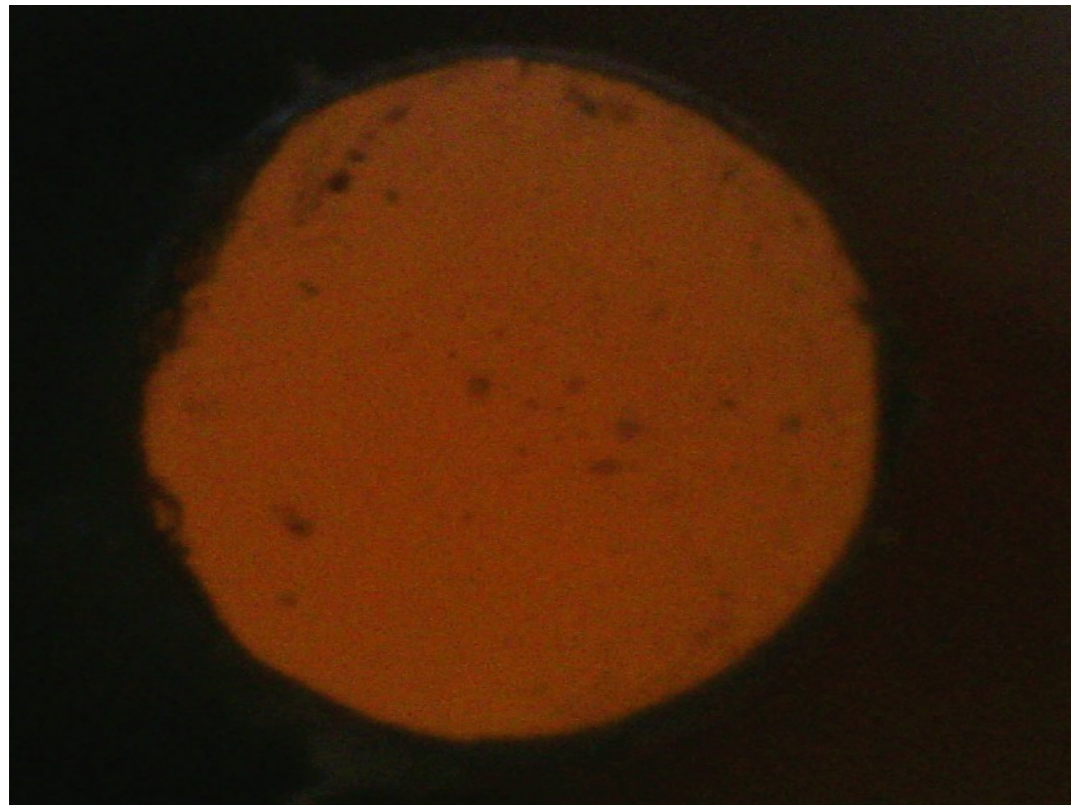
Cleaning wipes



Foam Swabs



1) Before anything

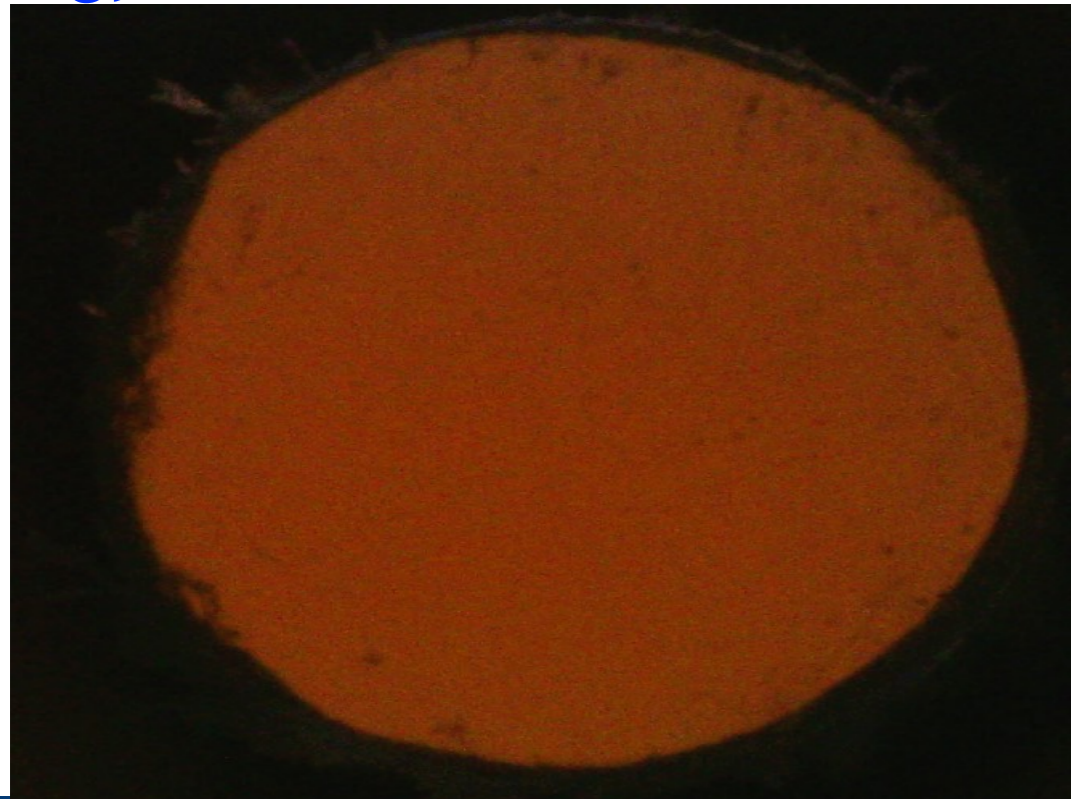


2) After cleaning with Fiber Clean

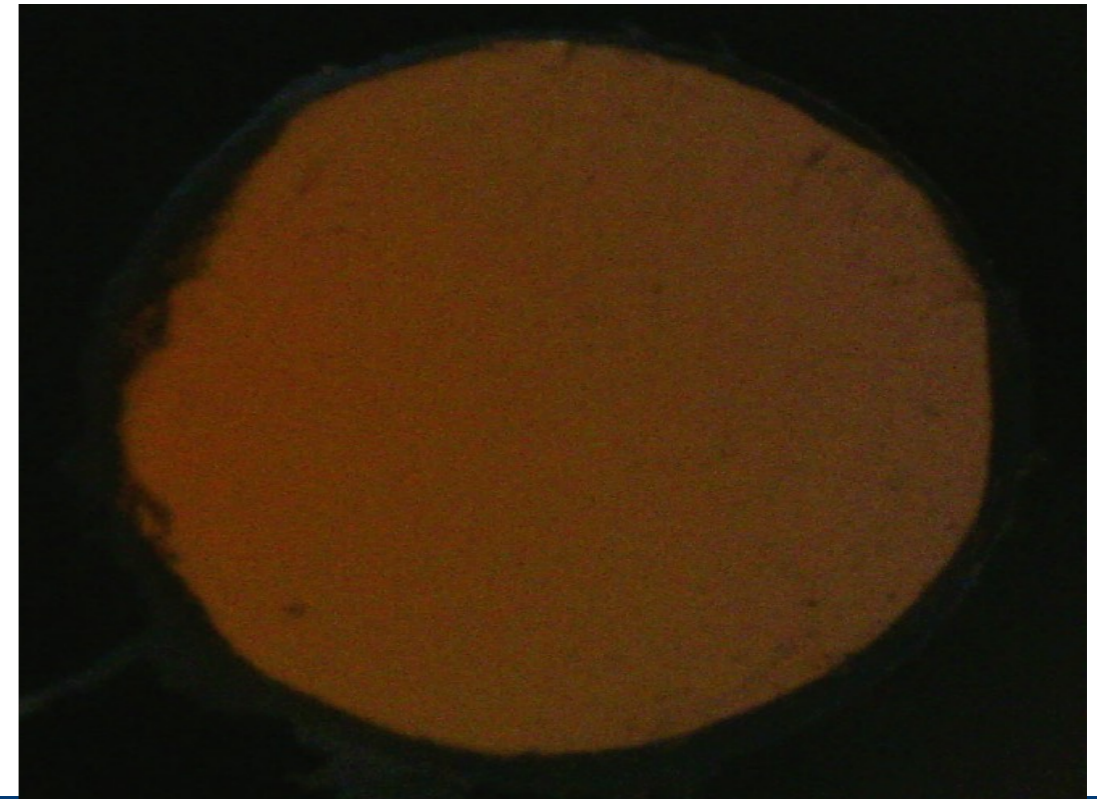


MS19E_11

3) Cleaned with foam swab



4) Cleaned with wipes



1) Before anything



MS19E_12

2) Cleaned with foam swab



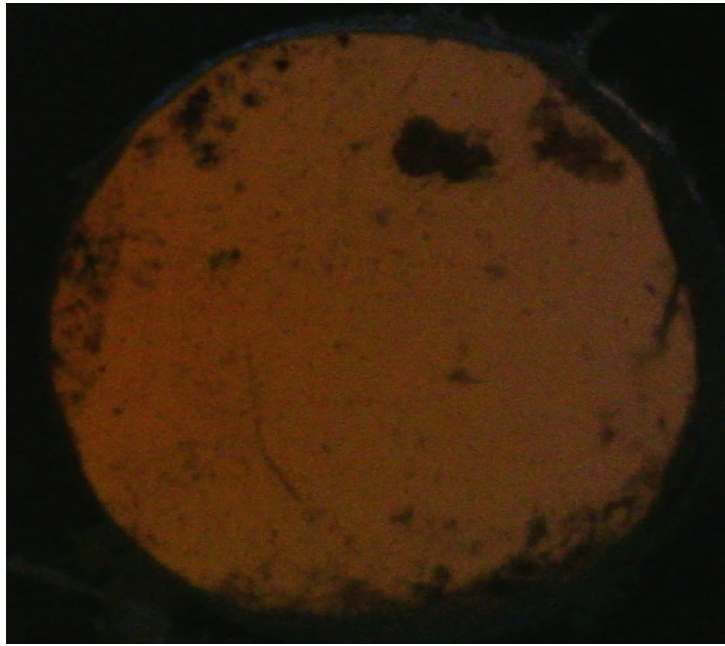
3) Foam swab with Liquid



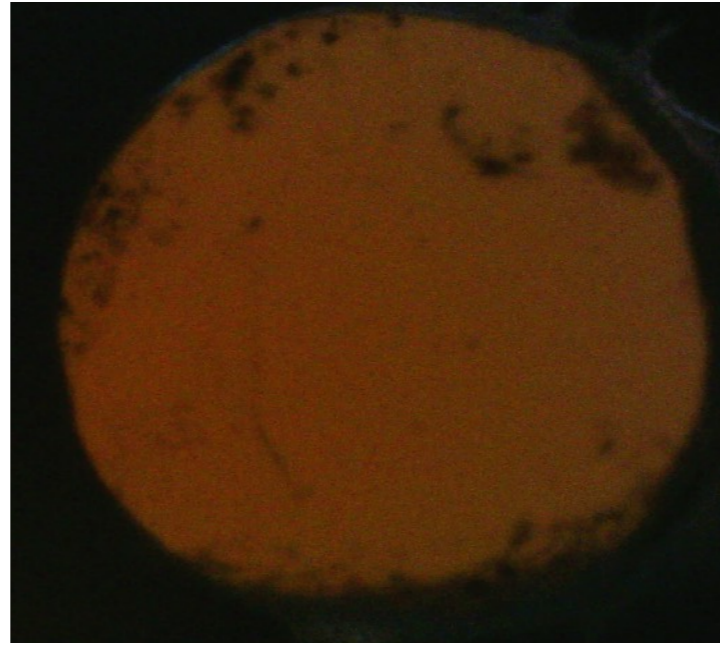
4) Wipes



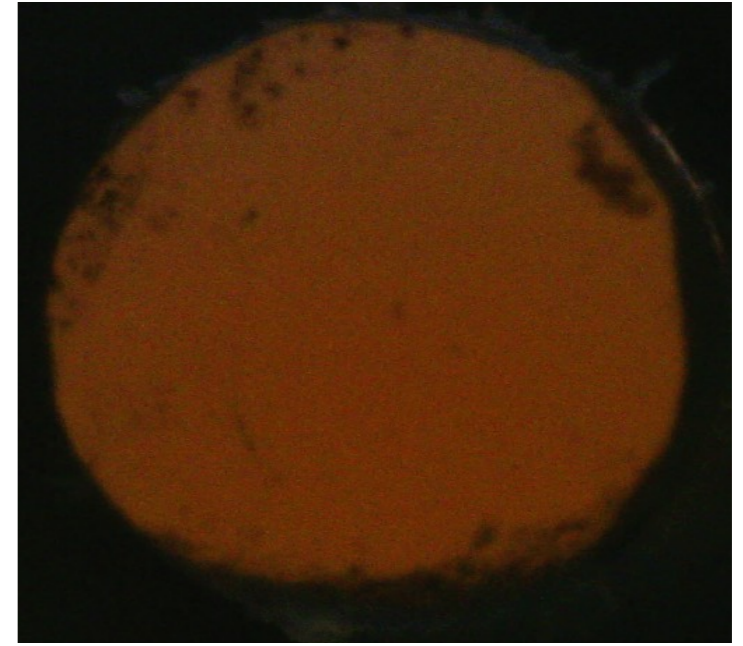
1) Before anything



2) with wipes

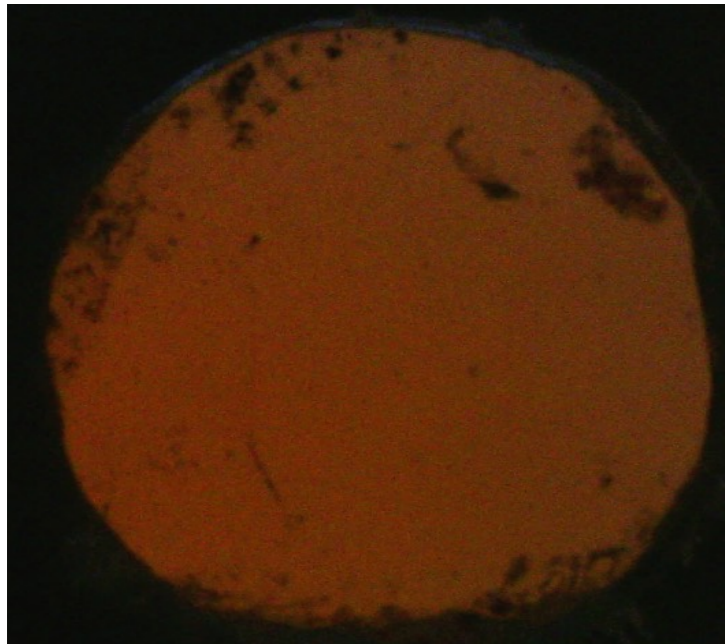


3) with wipes+Liquid

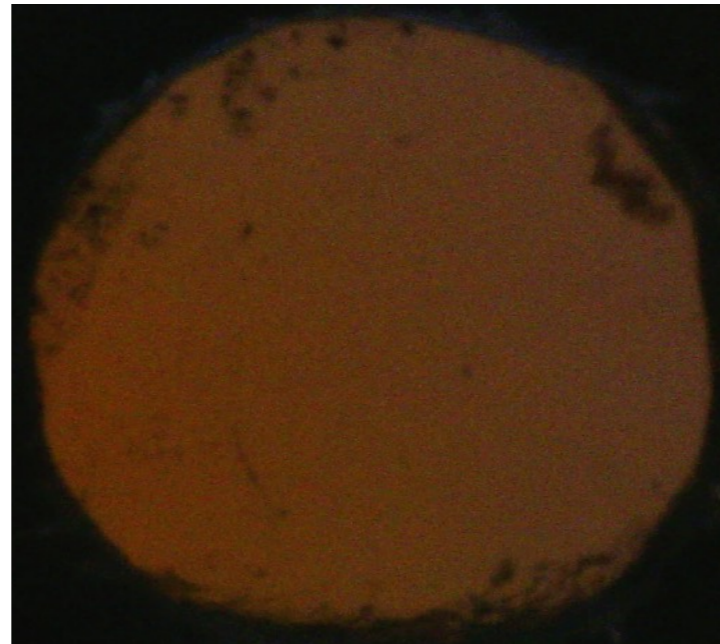


MS19E_16

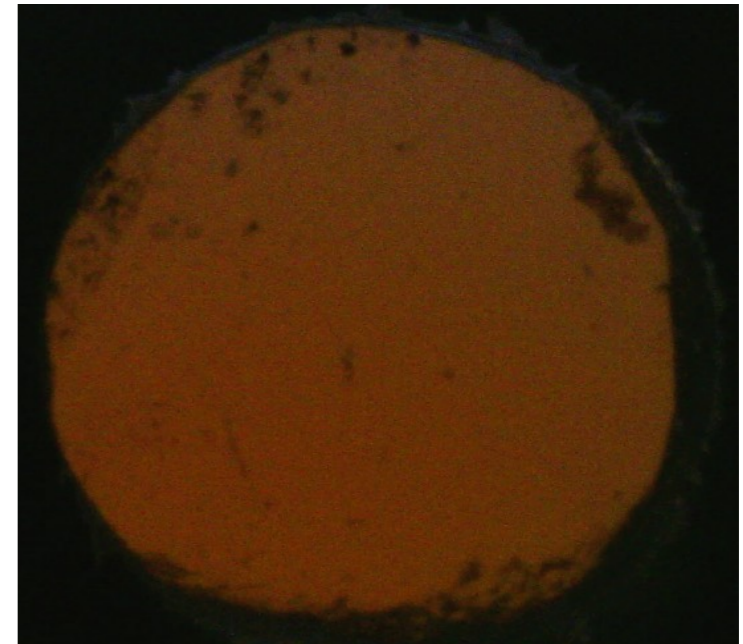
4) with foam swab



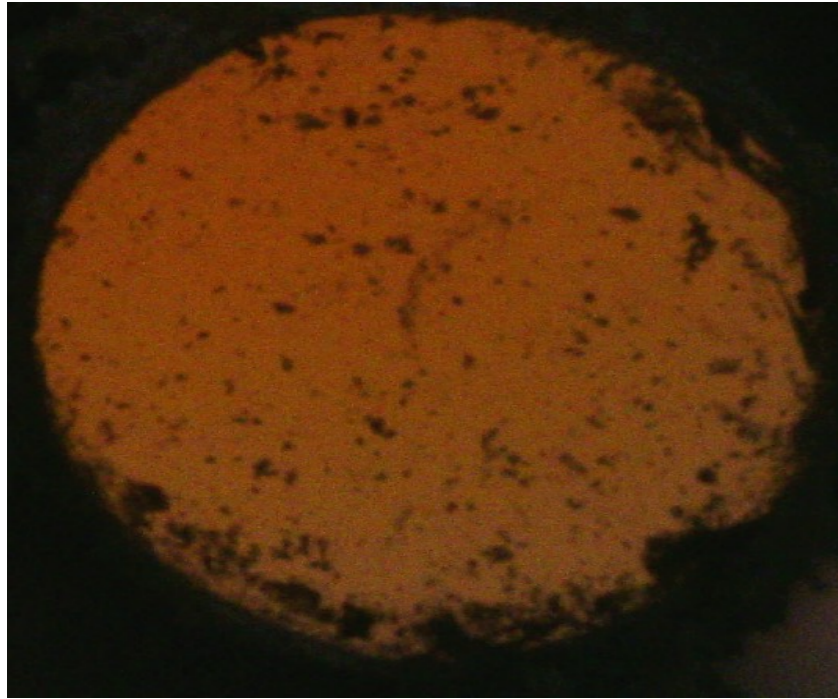
5) with foam swab+Liquid



6) with fiber clean



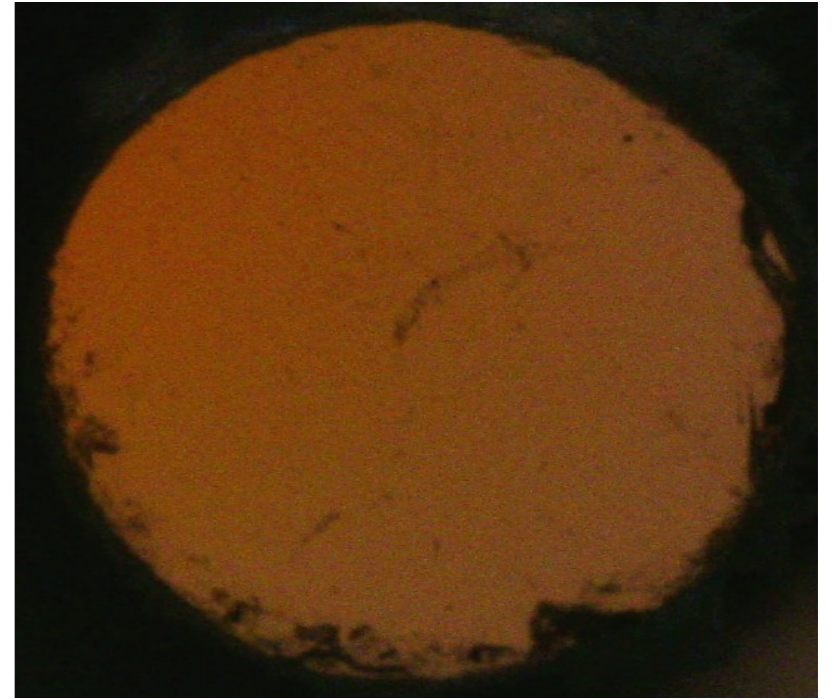
1) Before anything



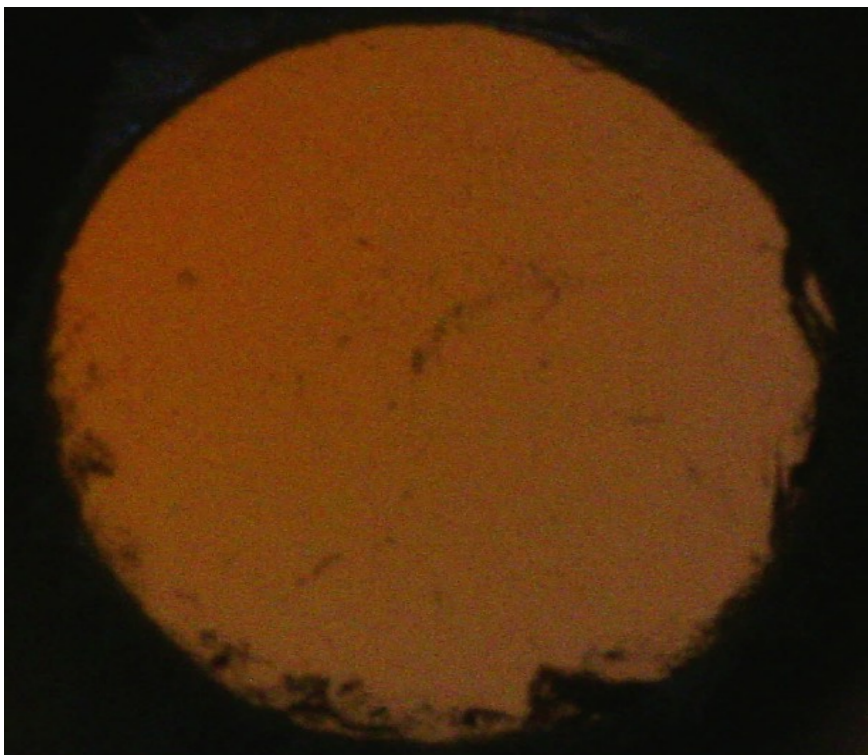
2) with wipes



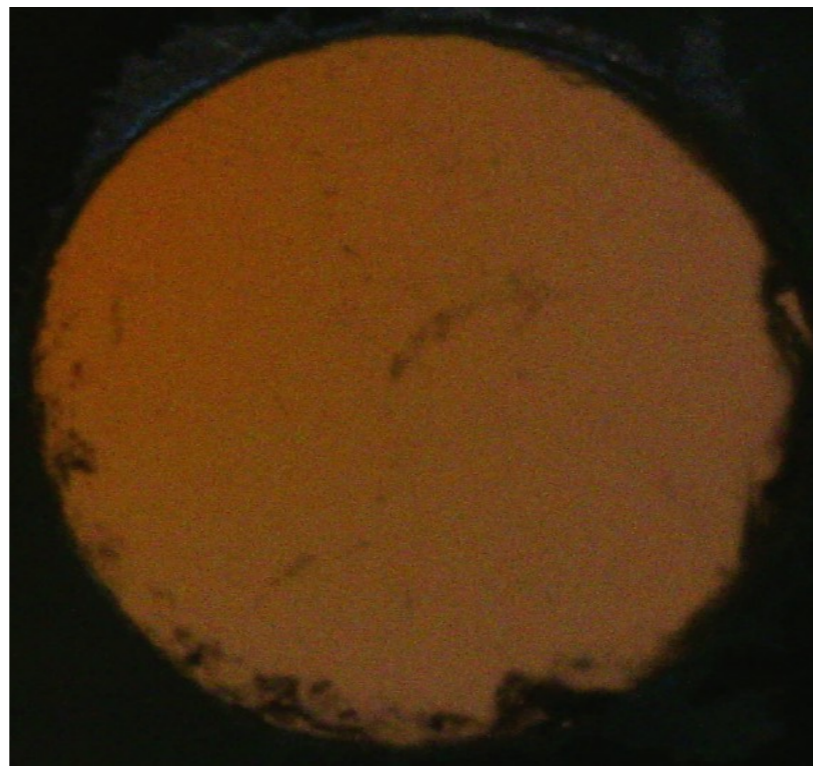
3) with wipes+Liquid



4) with foam swab



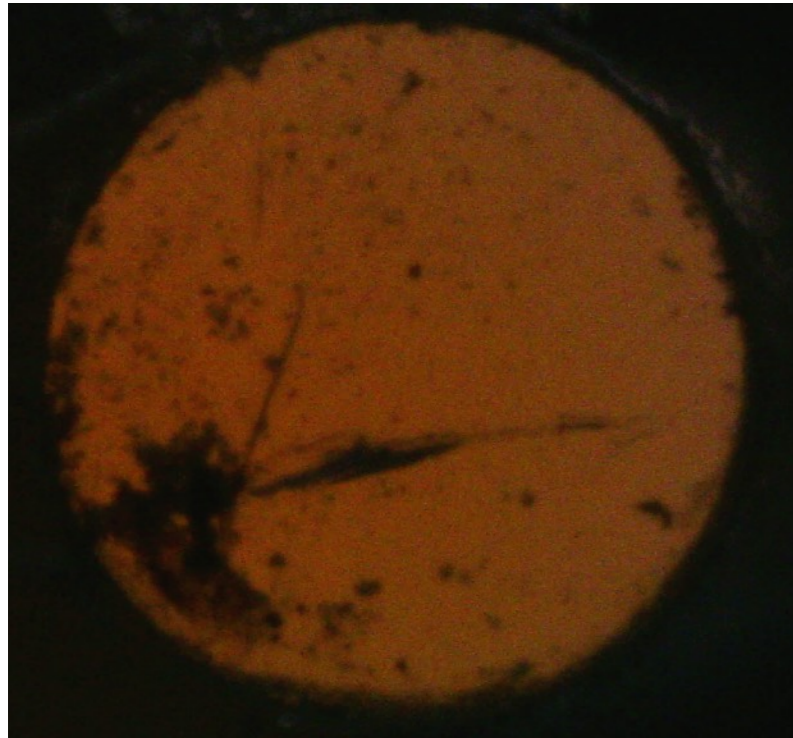
5) with foam swab+Liquid



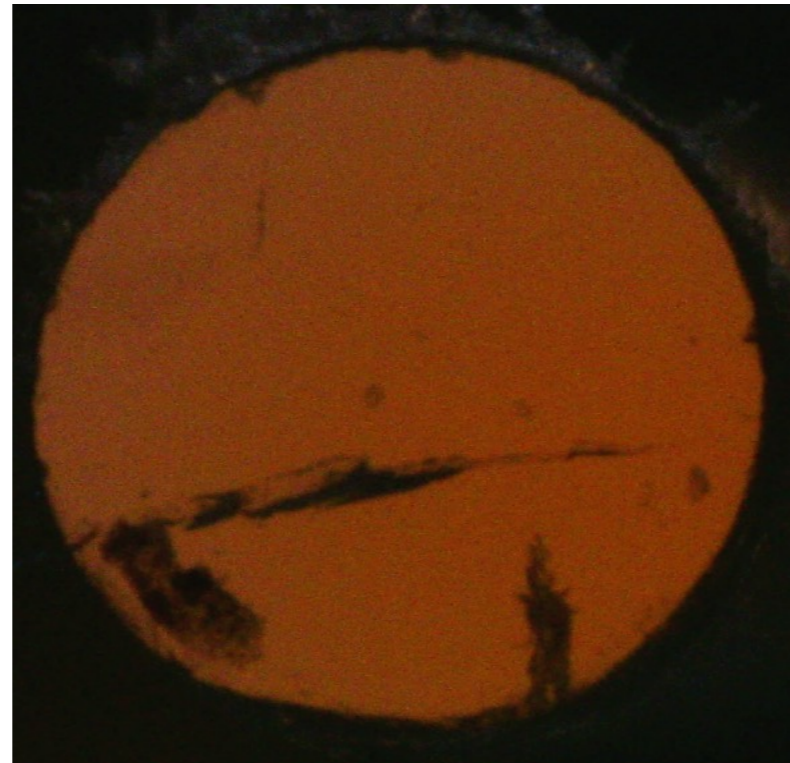
MS19E_17



1) Before anything



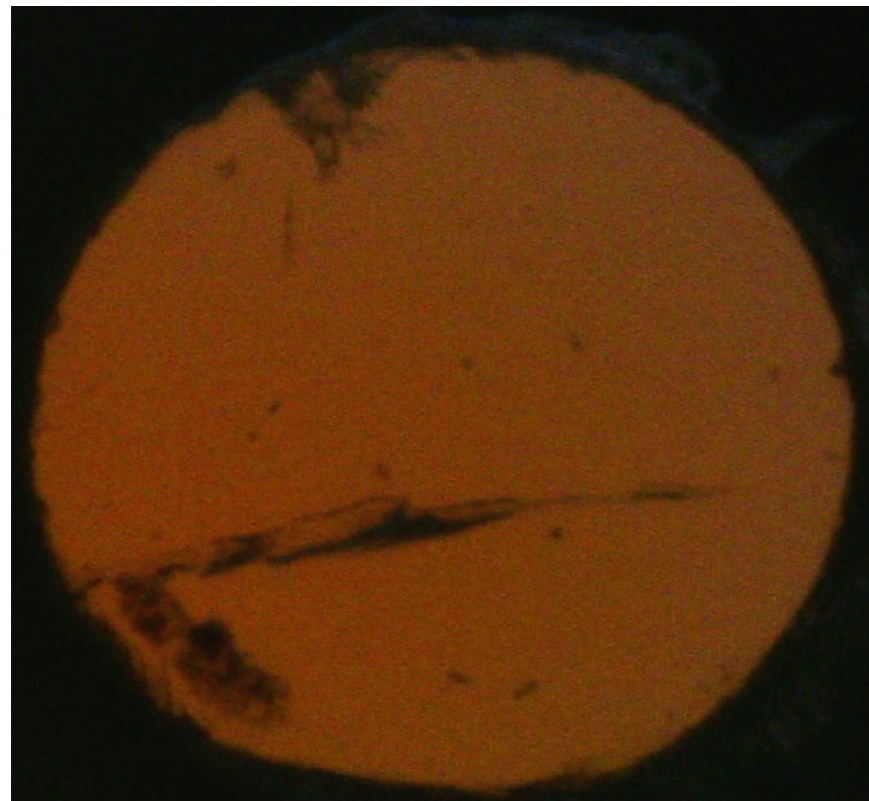
2) with foam swab



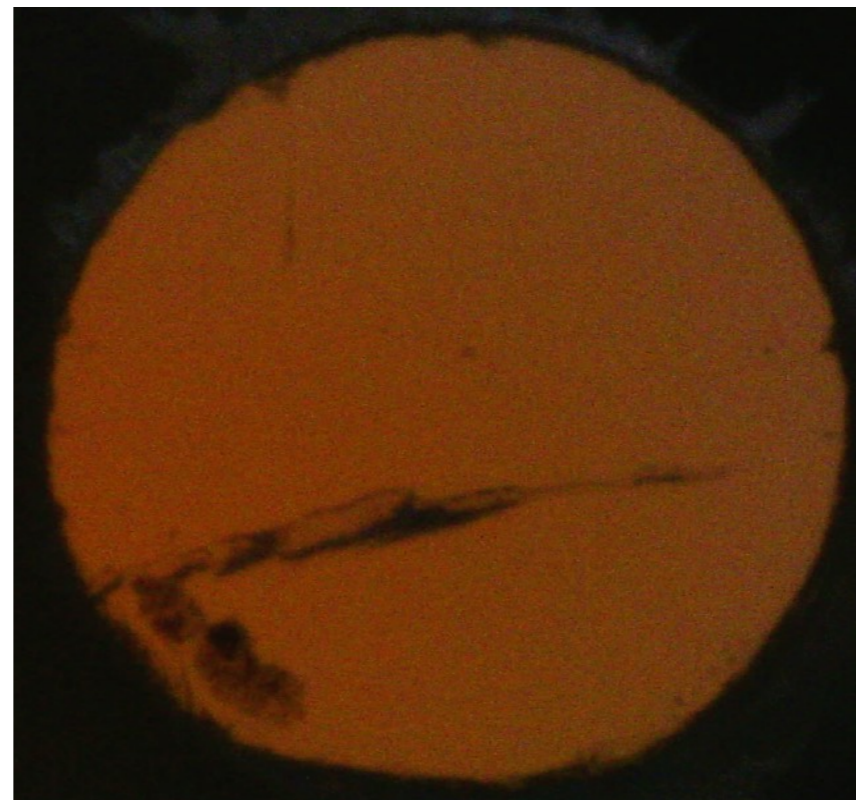
3) with wipes



4) with wipes+Liquid



5) with foam swab+Liquid



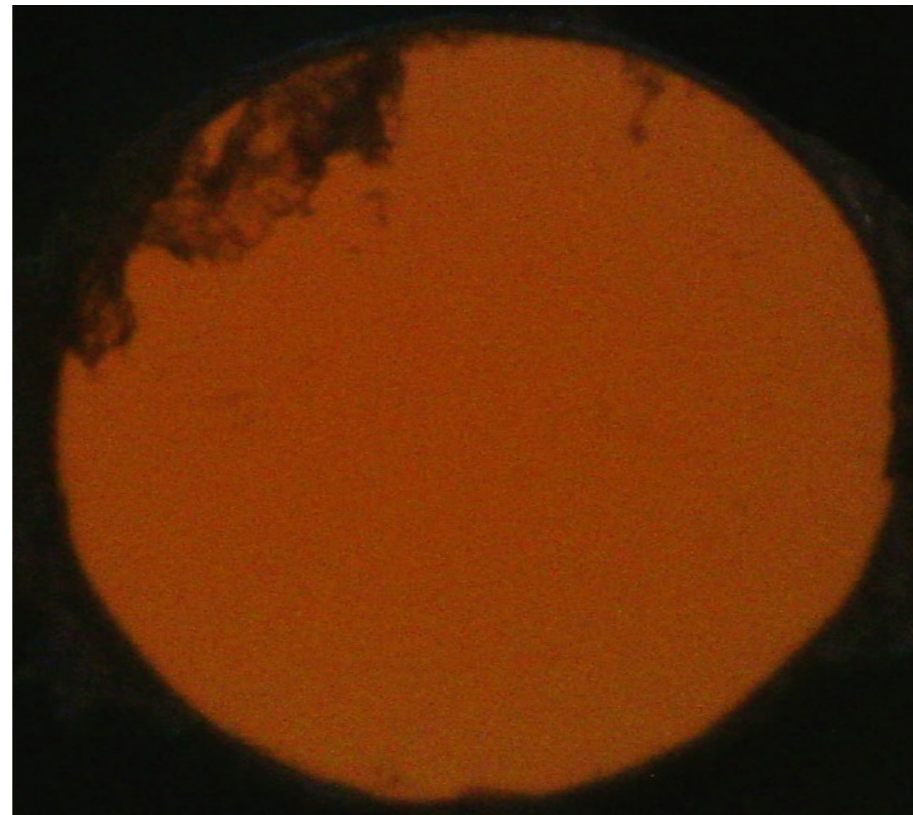
MS19E_14



1) Before anything

2) with foam swab

3) foam swab+Liquid



MS19E_18



1) Before anything

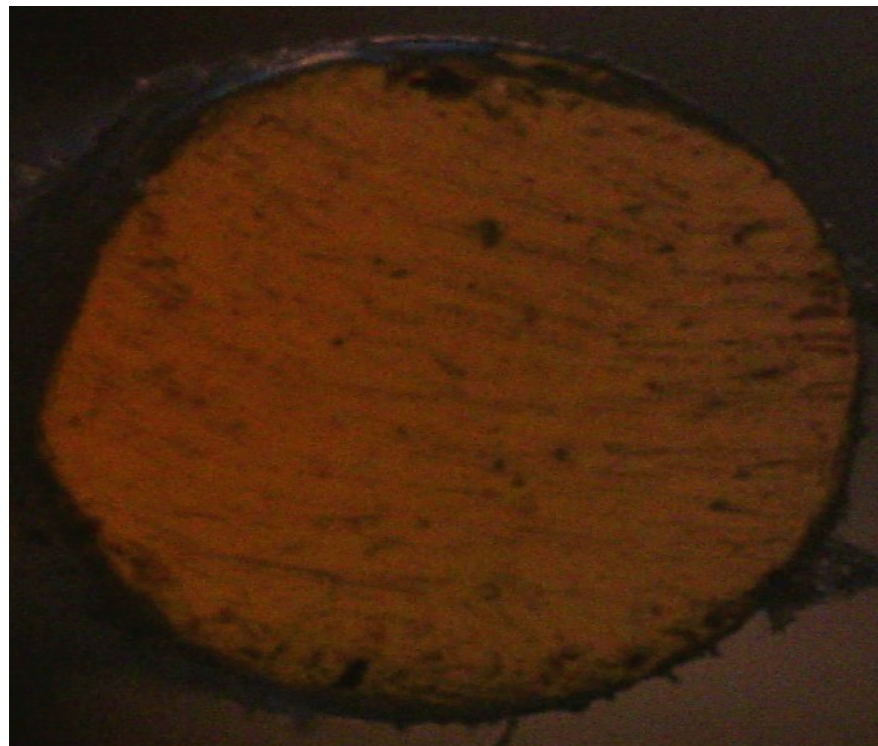
2) with foam swab

3) foam swab+Liquid



4) with wipes

5) with wipes+Liquid



MS19W_17

Maybe an unpolished fiber: we found only one

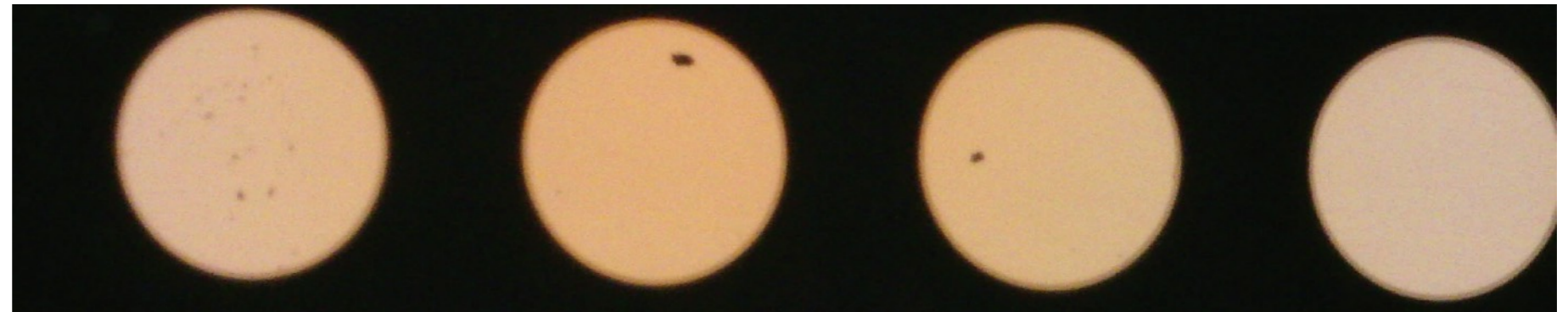
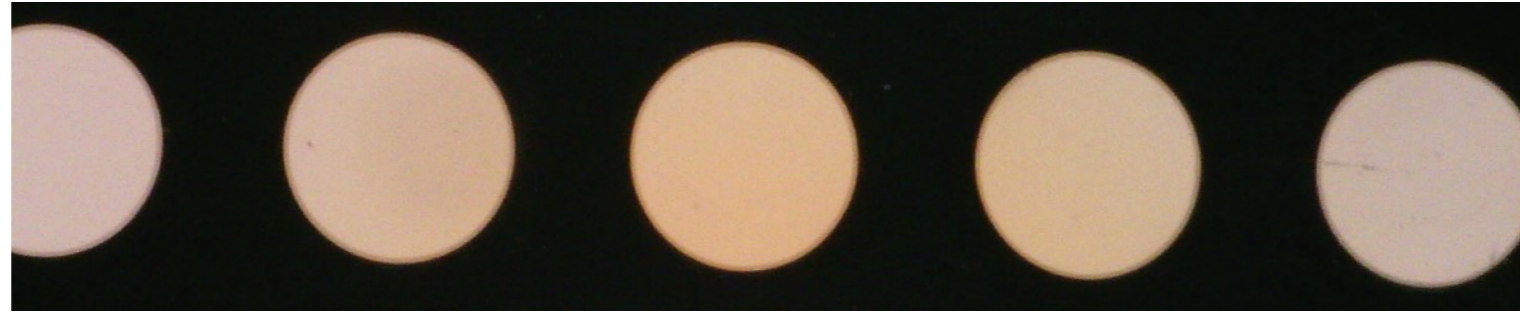


Optical cables



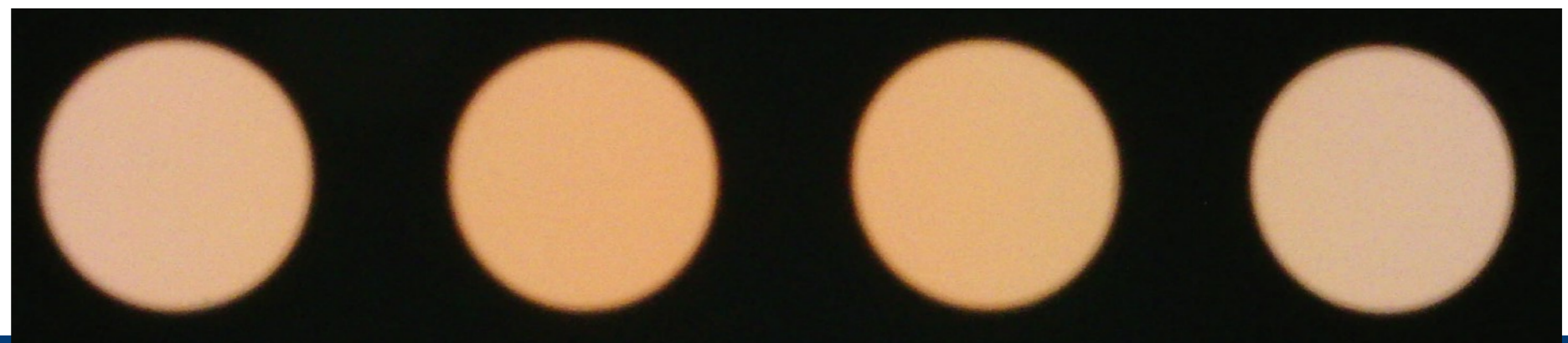
MS25E_2-1-4

1) Before anything



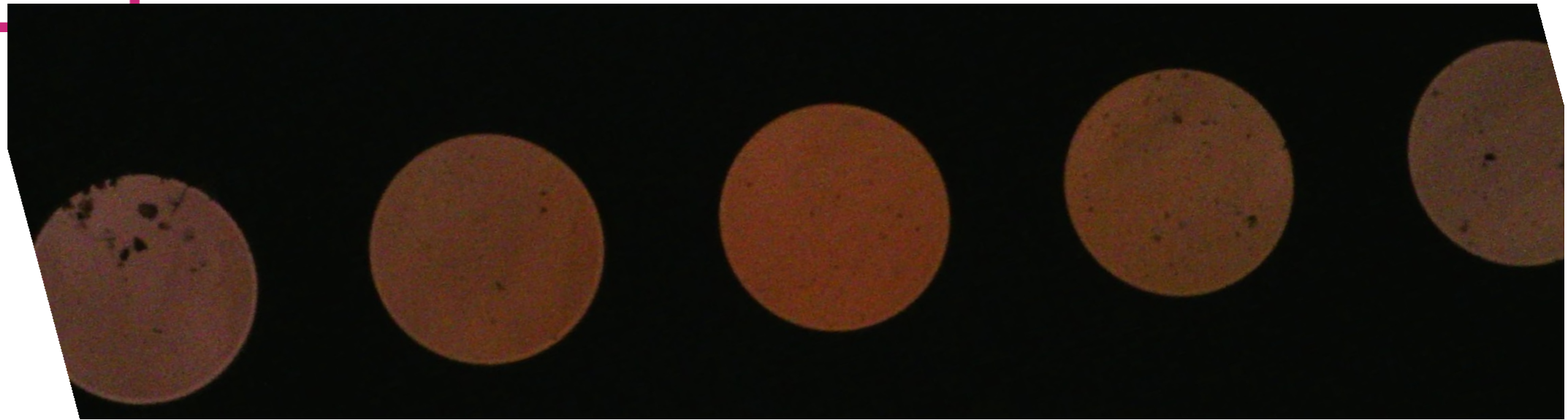
focusing optical fibers was harder than LI fibers

2) with foam swab

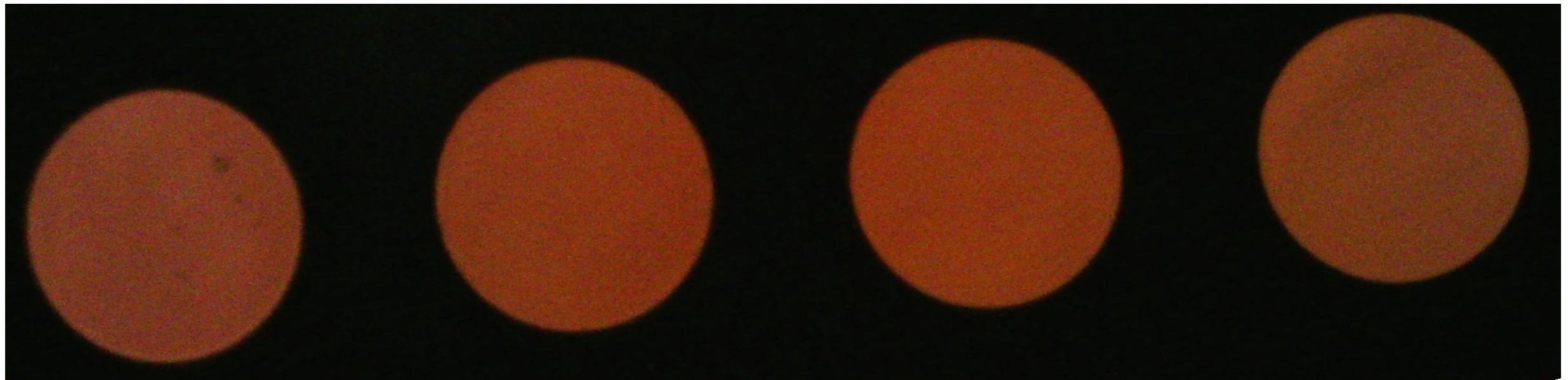


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1) Before anything



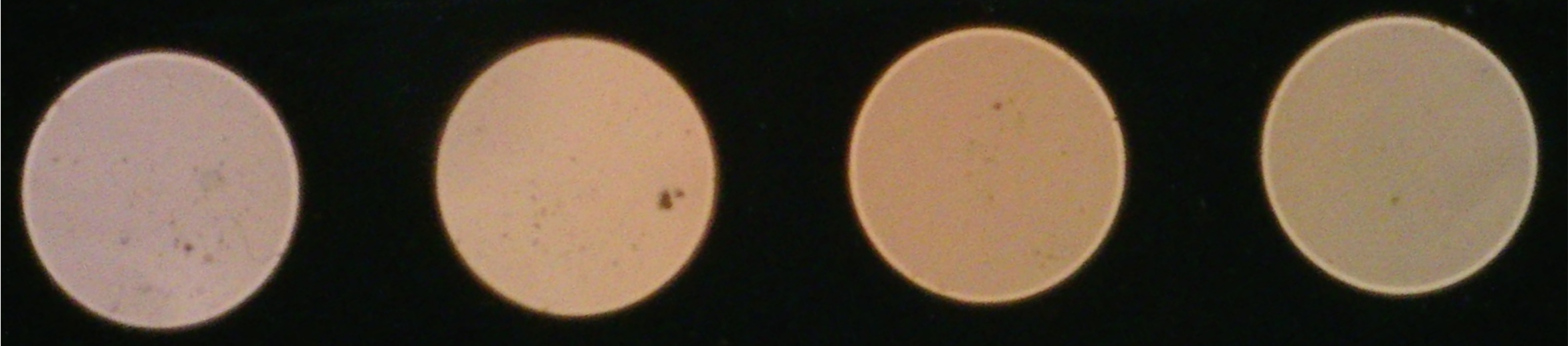
2) with foam swab



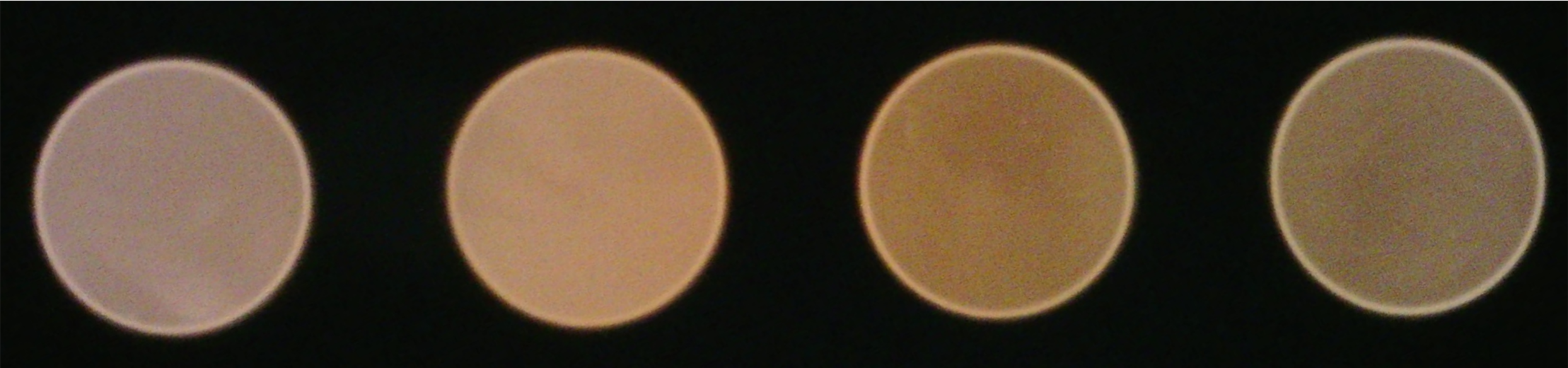
2) with foam swab+liquid



1) Before anything

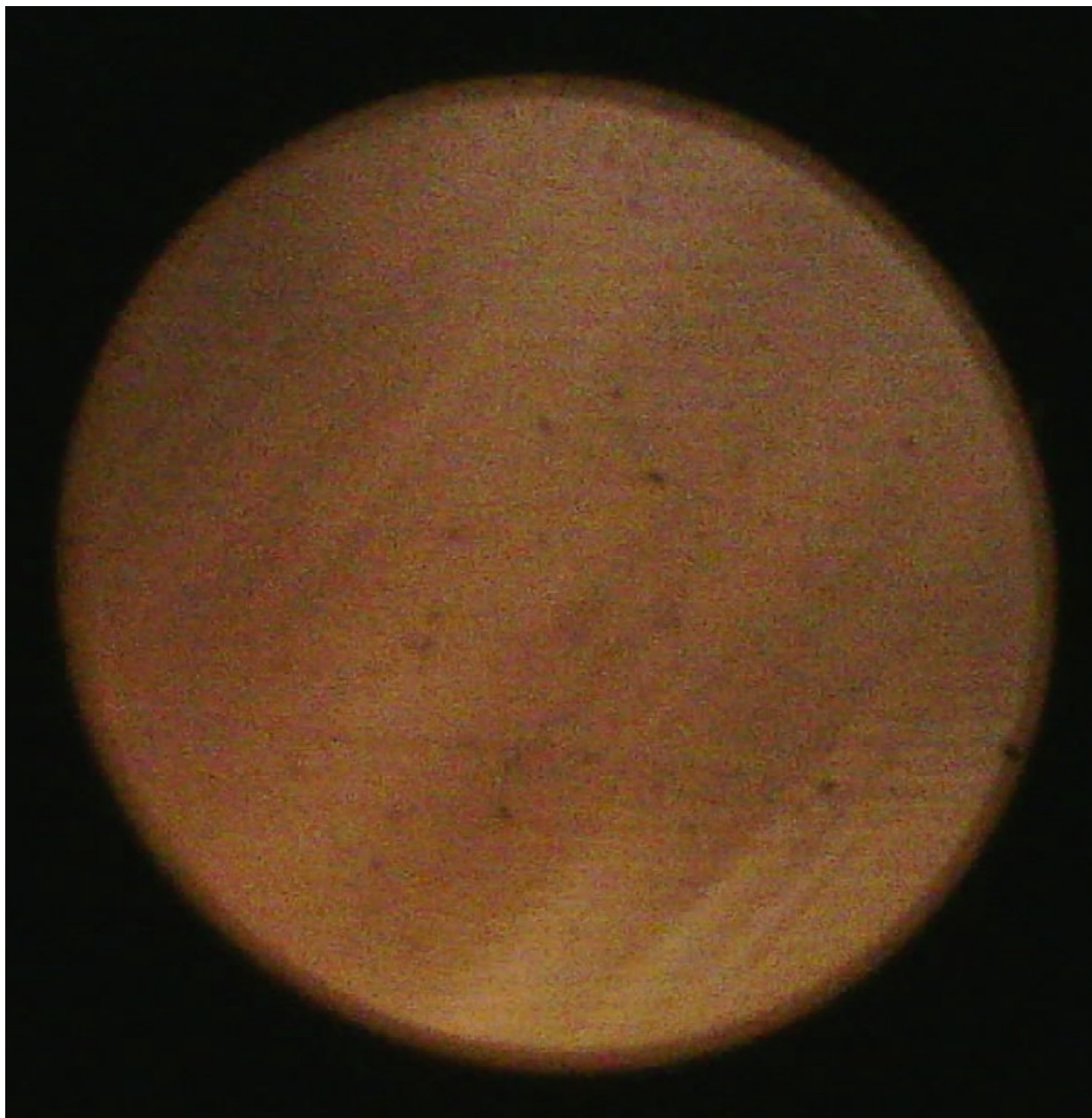


2) with foam swab

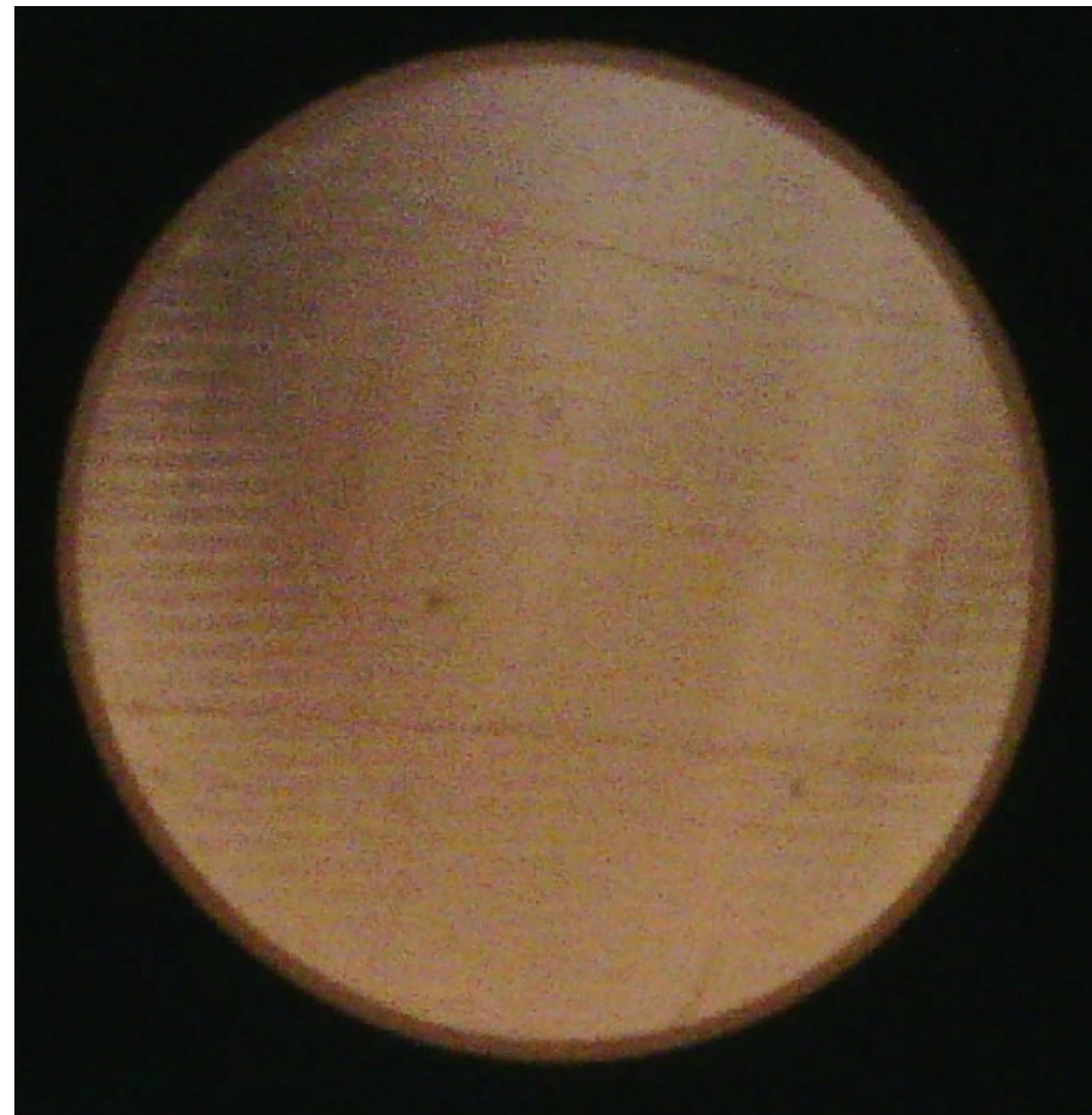


MS24E_1-1-3

1) Before anything



2) with wipe



Conclusion:

- Optical cables are lot cleaner than the LI fibers
- Foam swabs are little better than the wipes.
- Liquid underperformed in cleaning the fibers but comes handy in cleaning the dust from the length of the fibers.
- Fiber clean is inferior than all of things we used.
- Planning to go with cleaning the LI fibers first with wipes and then with foam swabs.



Fuse panels

Thanks Geoff 🙌



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Network Fuse Panel

MINERvA Front End Electronics

[MAIN] [[Control](#)] [[Setup](#)]

Channel	FESB	Voltage	Current	Status	Channel	FESB	Voltage	Current	Status
1	1W	48.275 V	0.002 A	ON	11	6W	48.225 V	0.001 A	ON
2	1E	48.225 V	0.002 A	ON	12	6E	48.250 V	0.001 A	ON
3	2W	48.250 V	0.002 A	ON	13	7W	48.100 V	0.002 A	ON
4	2E	48.225 V	0.002 A	ON	14	7E	48.325 V	0.002 A	ON
5	3W	48.250 V	0.001 A	ON	15	8W	48.175 V	0.002 A	ON
6	3E	48.125 V	0.001 A	ON	16	8E	48.300 V	0.002 A	ON
7	4W	48.150 V	0.002 A	ON	17	9W	48.225 V	0.001 A	ON
8	4E	48.175 V	0.002 A	ON	18	9E	48.275 V	0.002 A	ON
9	5W	48.150 V	0.001 A	ON	19	10W	48.175 V	0.002 A	ON
10	5E	48.150 V	0.001 A	ON	20	10E	48.175 V	0.002 A	ON

Internal Temperature is 24.1 °C



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Conclusion:

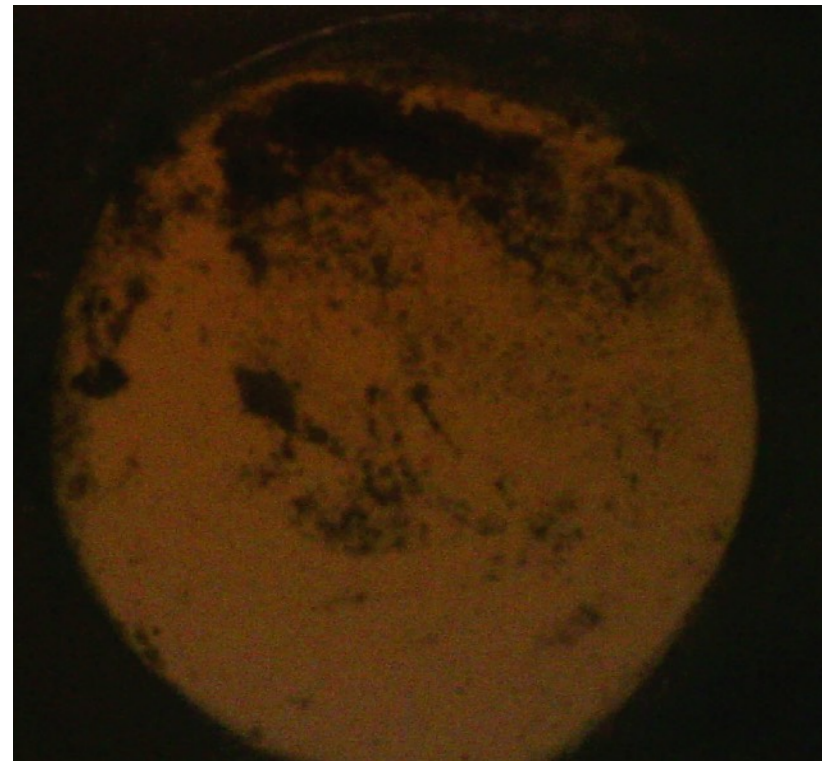
- NFP₁: All channels work.
 - has a bad fan
- NFP₂: All channels work.
- NFP₃: All channels work except channel 19.
- Decided not to clean them
- One has fans at different position than other, maybe replace them to be at the same place.



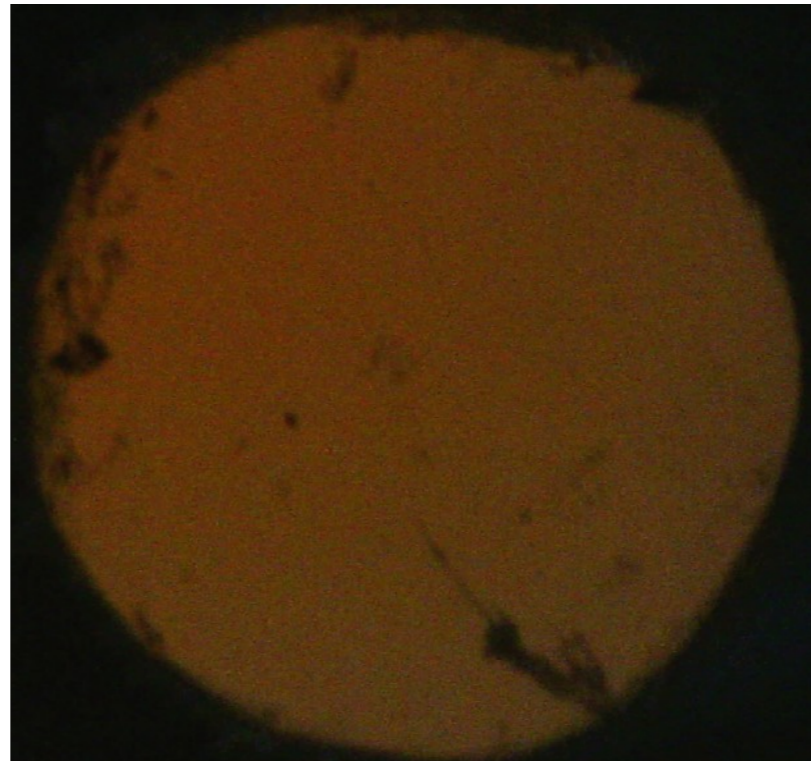
Back up



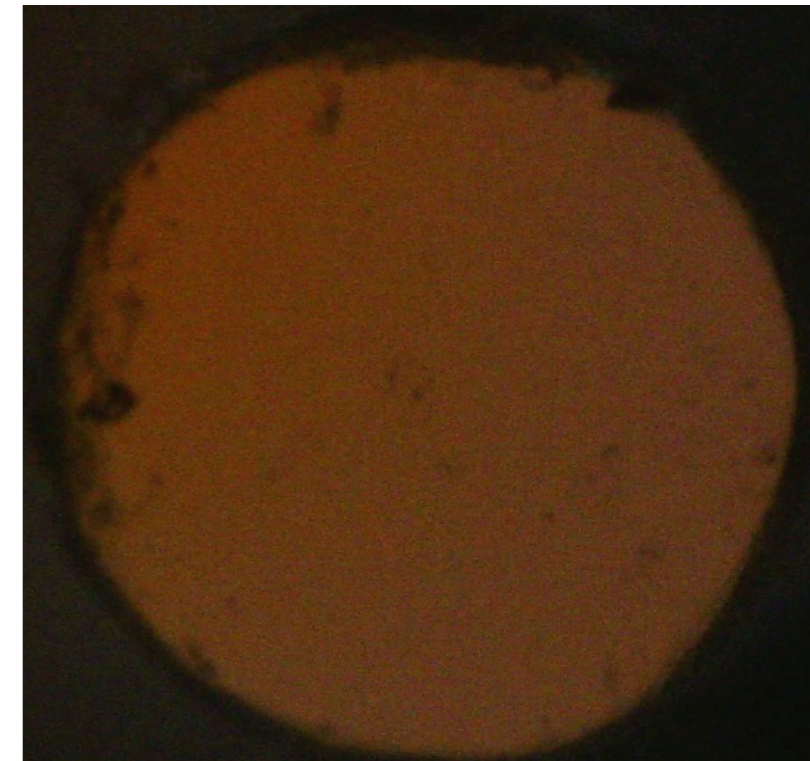
1) Before anything



2) with foam swab



3) with wipes



4) with wipes+Liquid



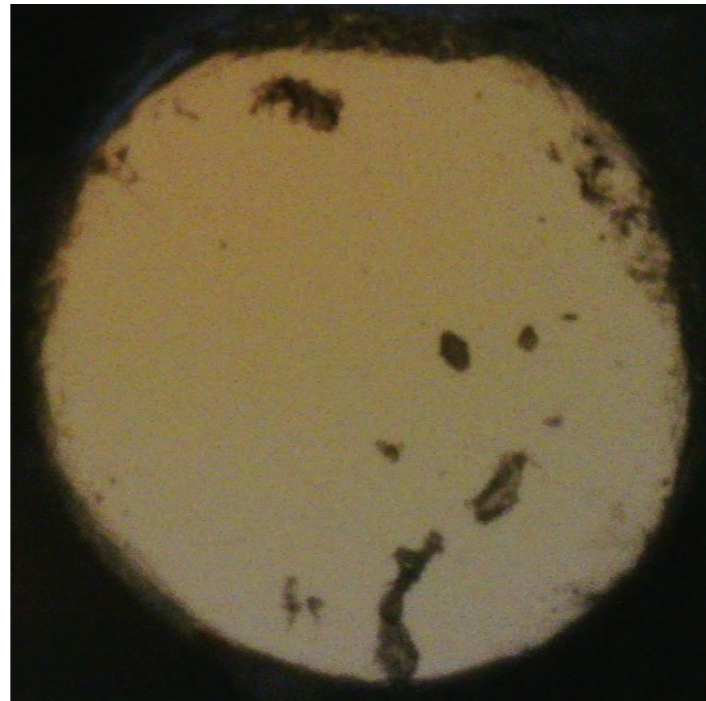
MS19W_13



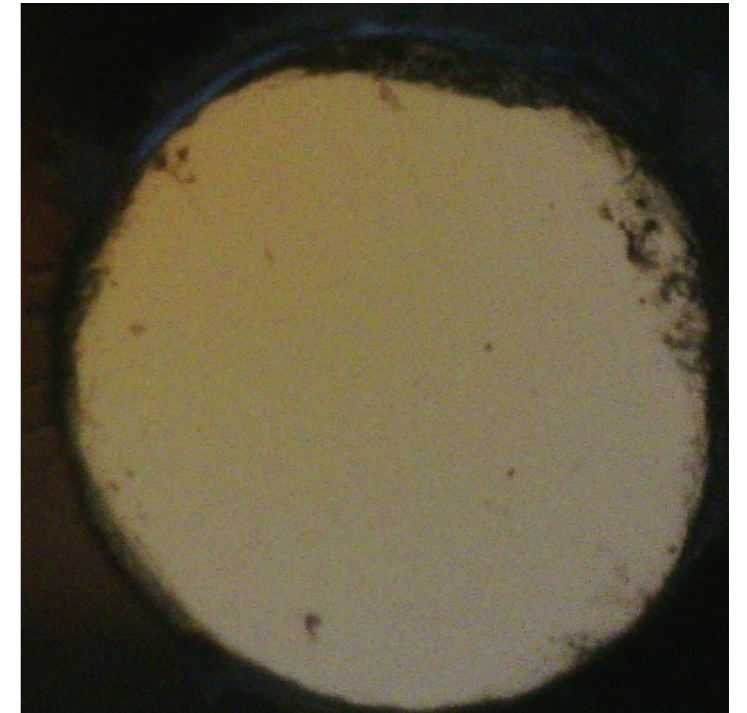
1) Before anything



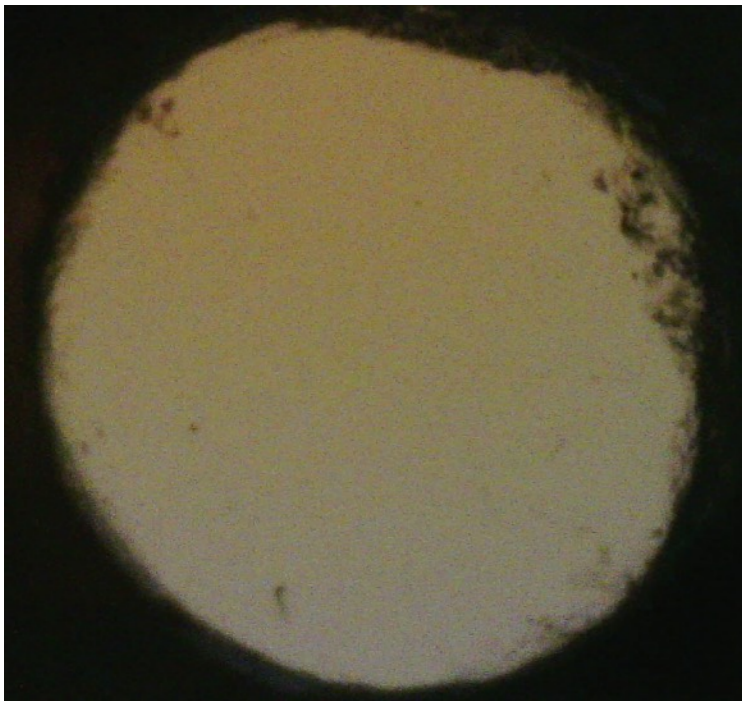
2) with fiber clean



3) with foam swab



4) foam swab+liquid



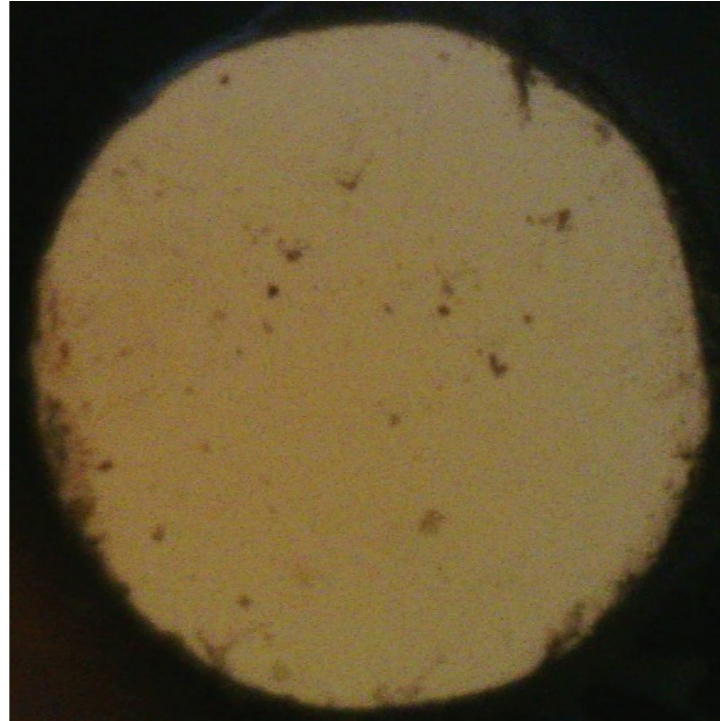
MS17W_19



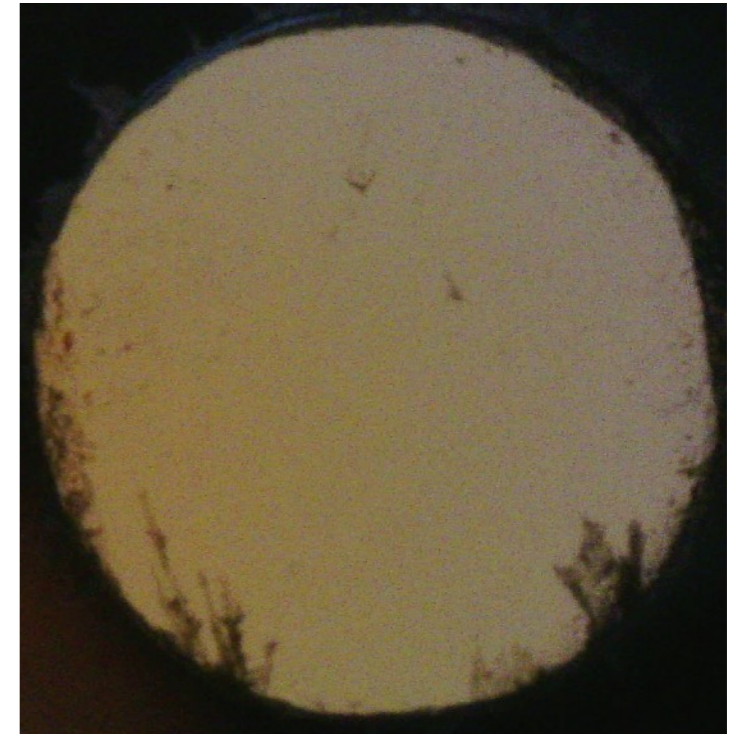
1) Before anything



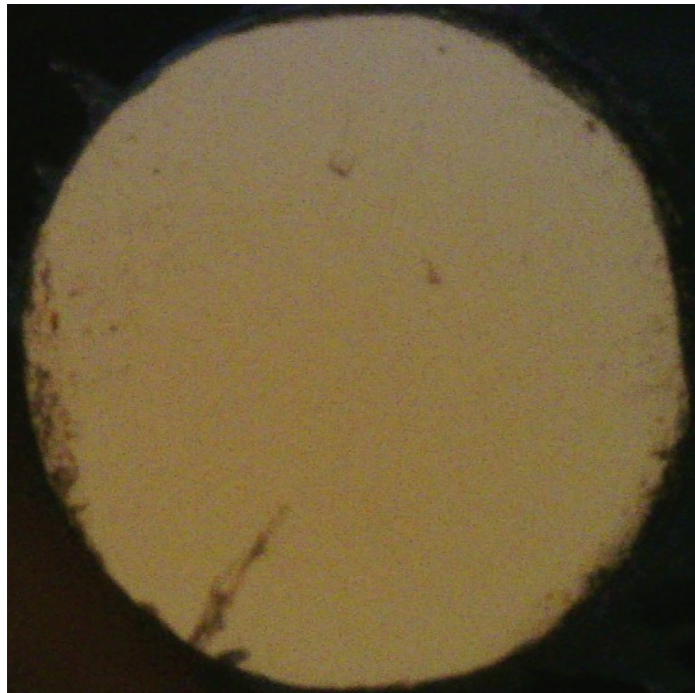
2) with wipes



3) with foam swab



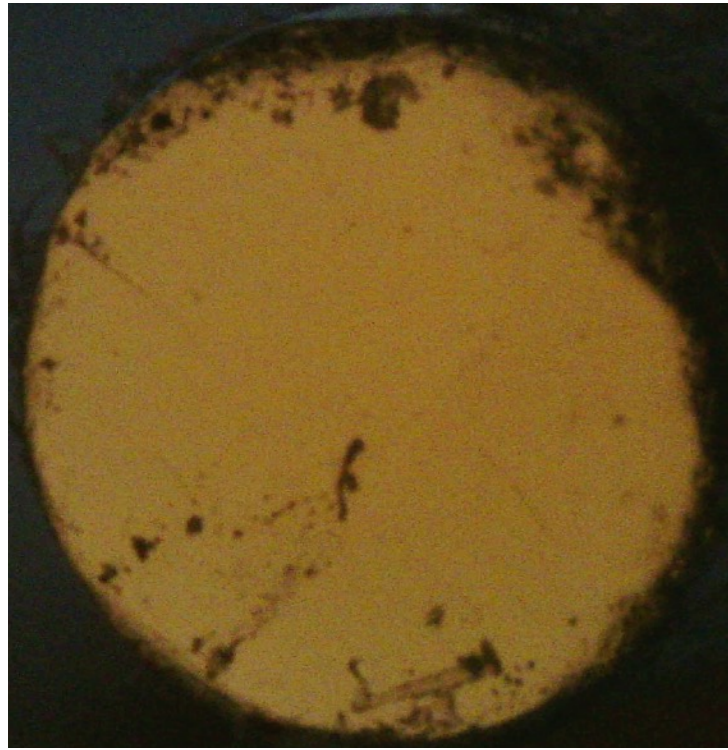
4) foam swab+Liquid



MS17W_04



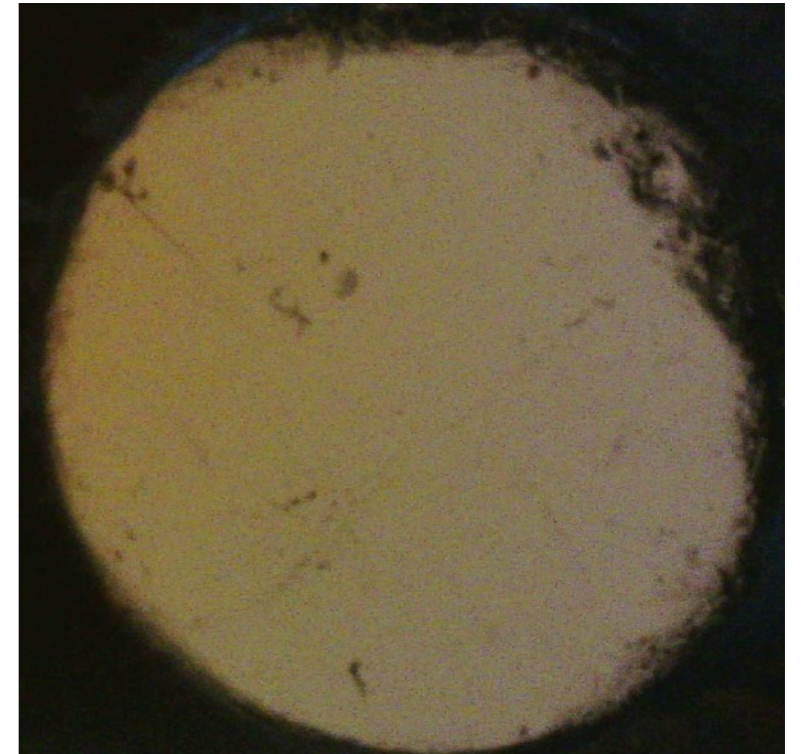
1) Before anything



2) with wipes



2) with foam swab



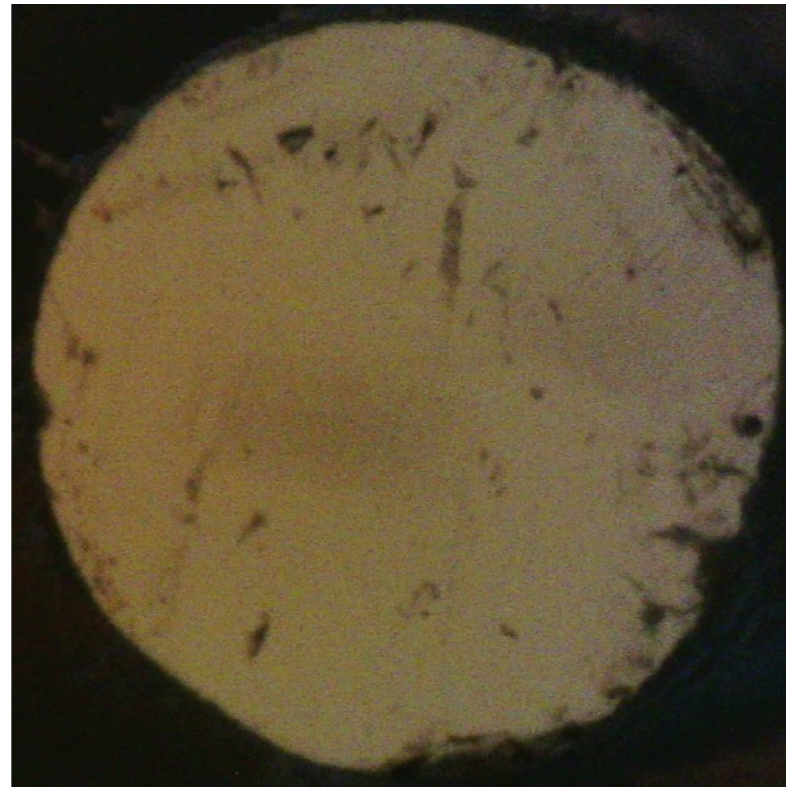
MS17W_15



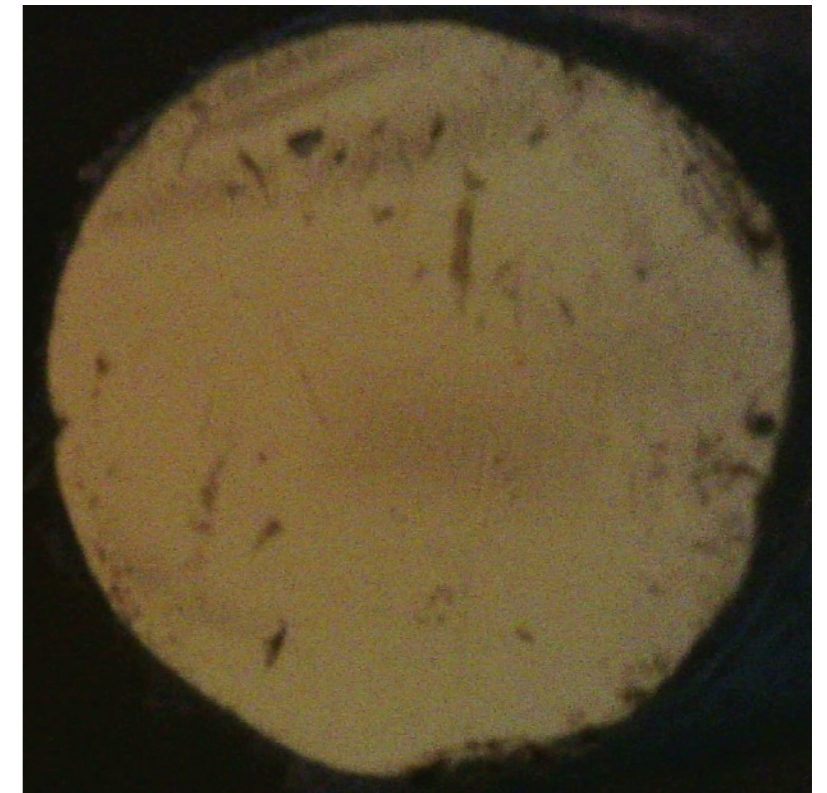
1) Before anything



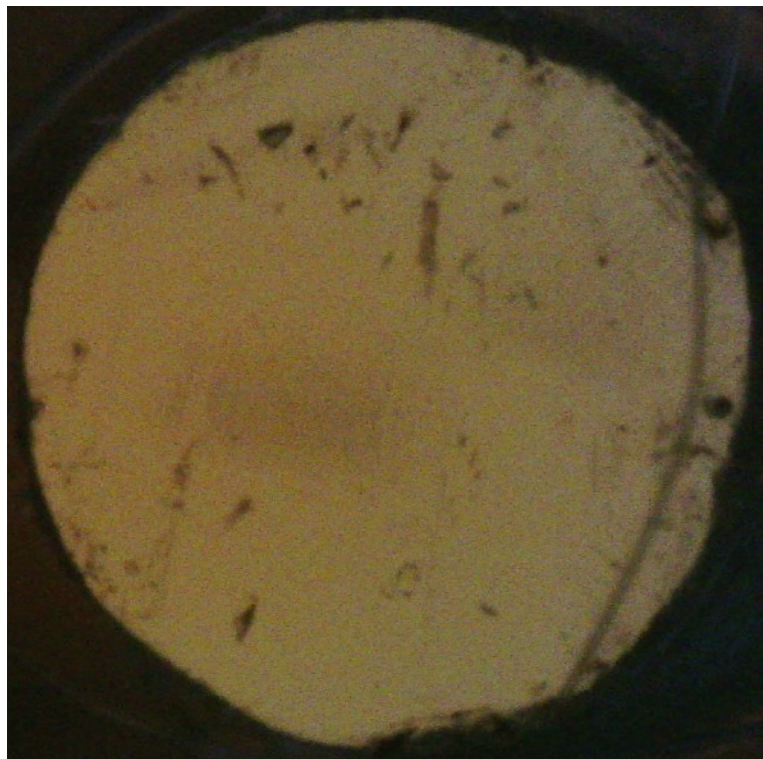
2) with foam swab



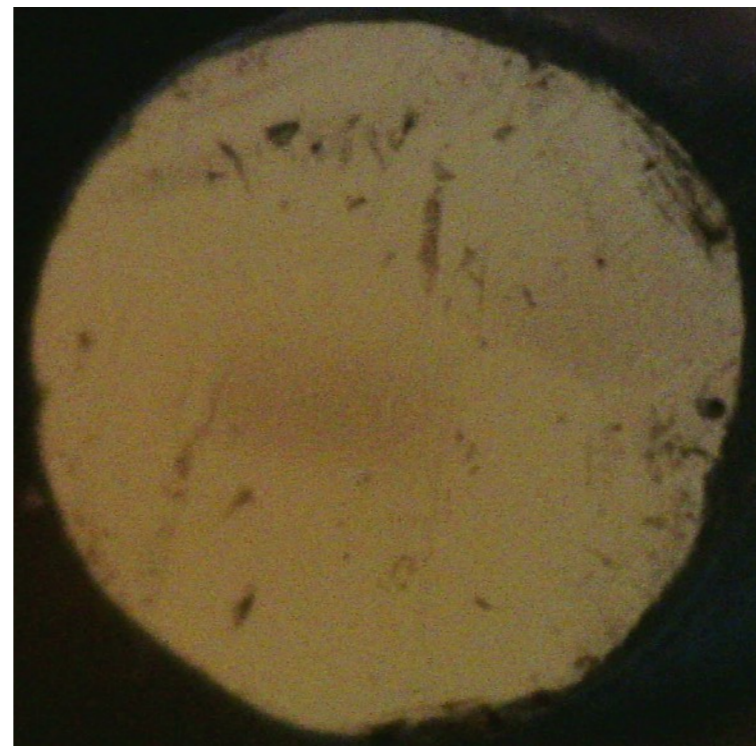
3) foam swab+Liquid



4) with wipes



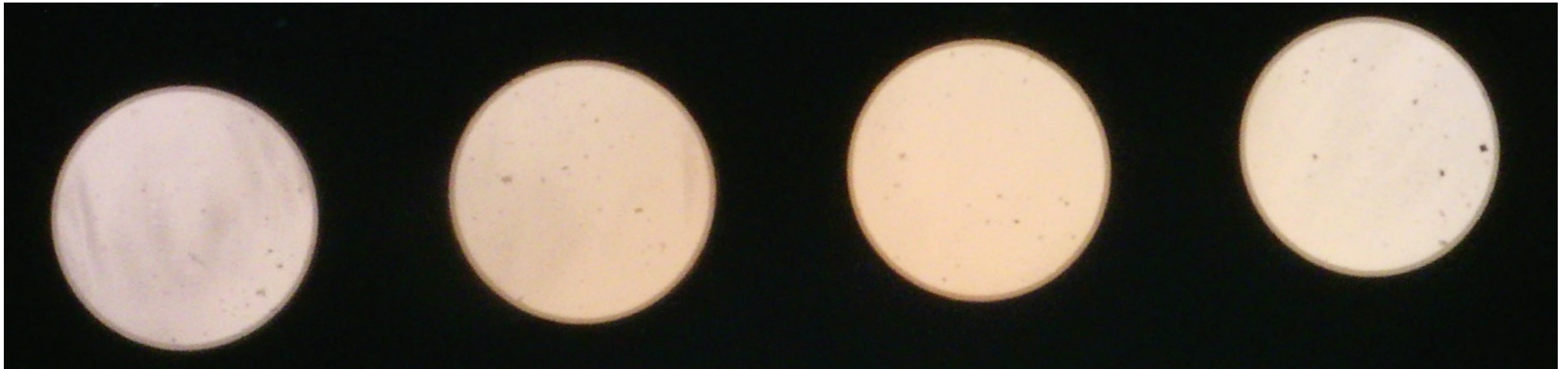
5) with wipes+Liquid



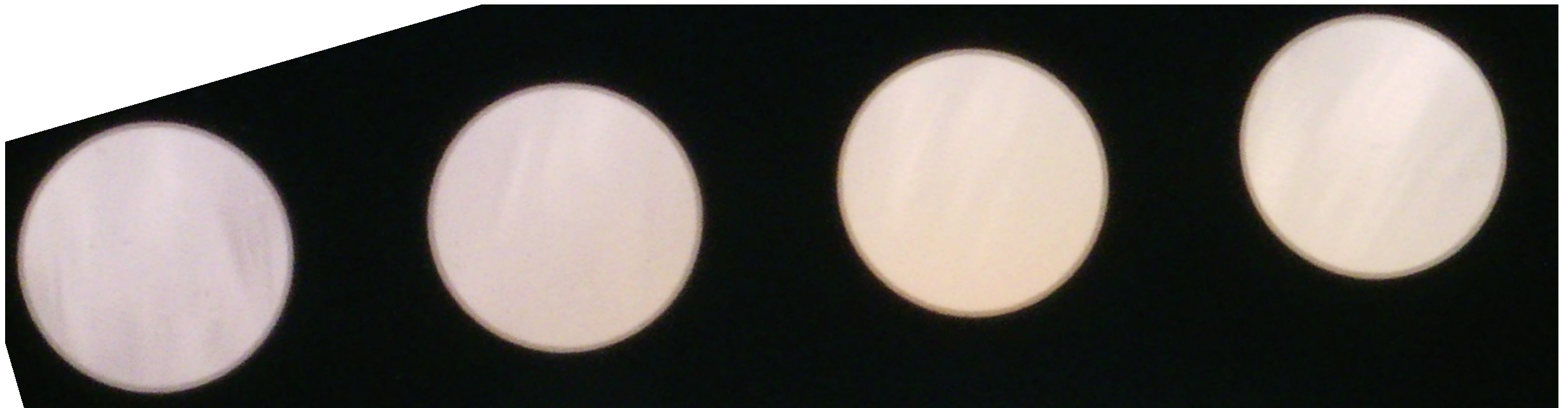
MS17W_16



1) Before anything

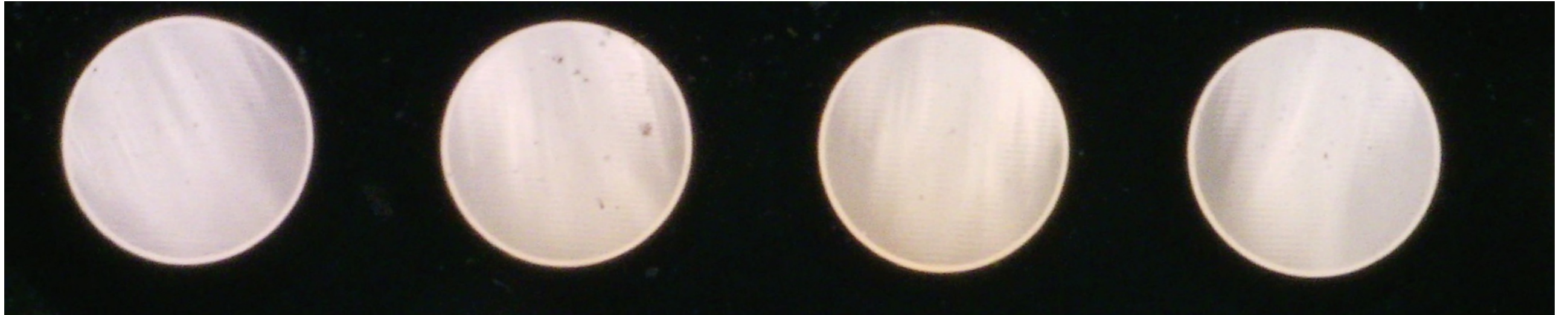


2) with foam swab



MS24E_

1) Before anything



2) with wipes



Fuse Panel 1

11-Nov-21
BAD FAN
nfp1

nfp1.
Checked 11/14/21
All channels work.
Faizq, Geoff, Howard



Fuse Panel 2

nfp2.
checked 11/11/21
All channels work.
Faiza, Geoff, Howard



Fuse Panel 3

