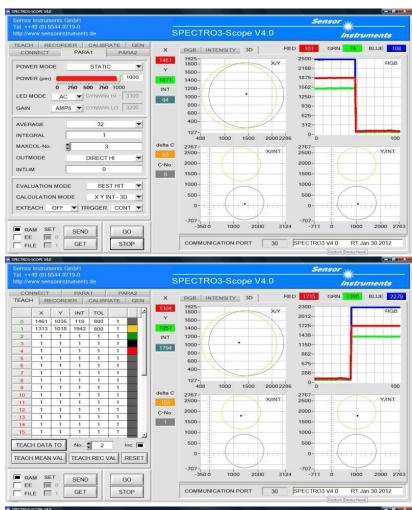


1. Presence control of carbon fibers on a sewing needle

The presence of a carbon fiber bundle on a sewing needle should be controlled. For this purpose a color sensor type SPECTRO-3-FIO-JR in connection with an optical fiber type R-S-F1.0-(1.5)-1200-67° are used. The distance of the optical fiber to the needle is approximately 4mm. A proper differentiation between presence and non presence of carbon fibers is possible as shown in the screen shots.



nsor Instruments GmbH I ++49 (0) 8544-9719-0	Sensor 🙀	
http://www.sensorinstruments.de	SPECTRO3-Scope V4.0	Instruments
CONNECT PARA1 PARA2 IACH RECORDER CALIBRATE GEN GET CYCLE TIME 39 39 Itz 0.0 (me) 0.000000 ET ROW COLORS MANUALLY Y ELECT ROW 0 ROW COLOR	X RGB INTENSITY 3D RED 1964 1925- 1800- V 1600- INT 1200- INT 1200- 800- 800- X/Y 2100- 1838- 1575- 1312- 1055 1055 1056 1057 1057 1057 1057 1057 1057 1057 1057	GRN 1179 BLUE 205
0 needle with carbon fiber	600- 127- 488 1000 1500 2000 2286 0- 2500- 2500- C-No: 2000- 1 1500- 1 1500-	100 V/INT
4 5 6 7 J	1000- 500- 0- -707- -3500 1000 2000 3124 -771	



