

New Opportunities for the Development of Education at the Technical University of Liberec

Specific objective A2: Development in the field of distance learning, online learning
and blended learning

NPO_TUL_MSMT-16598/2022



KNT_TNA_Needle electrospinning

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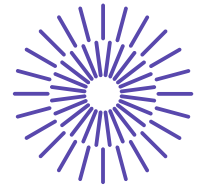


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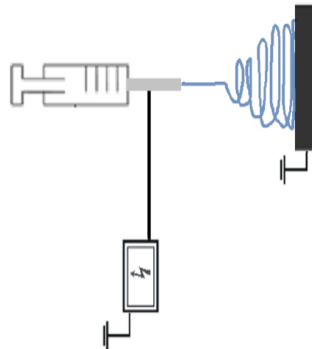


**CZECH
RECOVERY
PLAN**

MSMT
MINISTRY OF EDUCATION,
YOUTH AND SPORTS



The needle electrospinning device consists of a dosing pump, a polymer solution syringe, a cut metal needle, a collector and a high voltage source.



Tutorial objectives: During the tutorial, change the diameters of the needles and observe the change in the value of the critical electric voltage at a constant distance of the collector from the electrode. In the second part of the tutorial, choose one diameter of the metal needle and vary the distance of the collector from the electrode and observe the effect on the value of the critical voltage.

Method:

- 1) Check the connection of the device, and draw a diagram of the device used.
- 2) Pour the polymer solution into the syringe and attach the metal needle.
- 3) Choose the distance of the collector from the electrode.
- 4) Turn on the high voltage source and gradually increase the electric voltage and observe the value of the critical voltage.
- 5) Gradually change the needle with different diameters and observe the change in the value of the critical voltage.
- 6) Choose a metal needle of a certain diameter and the distance of the collector from the electrode.
- 7) Turn on the high voltage source and gradually increase the electric voltage and observe the value of the critical voltage.
- 8) Gradually change the distance of the collector from the electrode and observe the change in the value of the critical voltage.

