

Low-cost-high-tech- physic-education

Linear Accelerator Model



Content

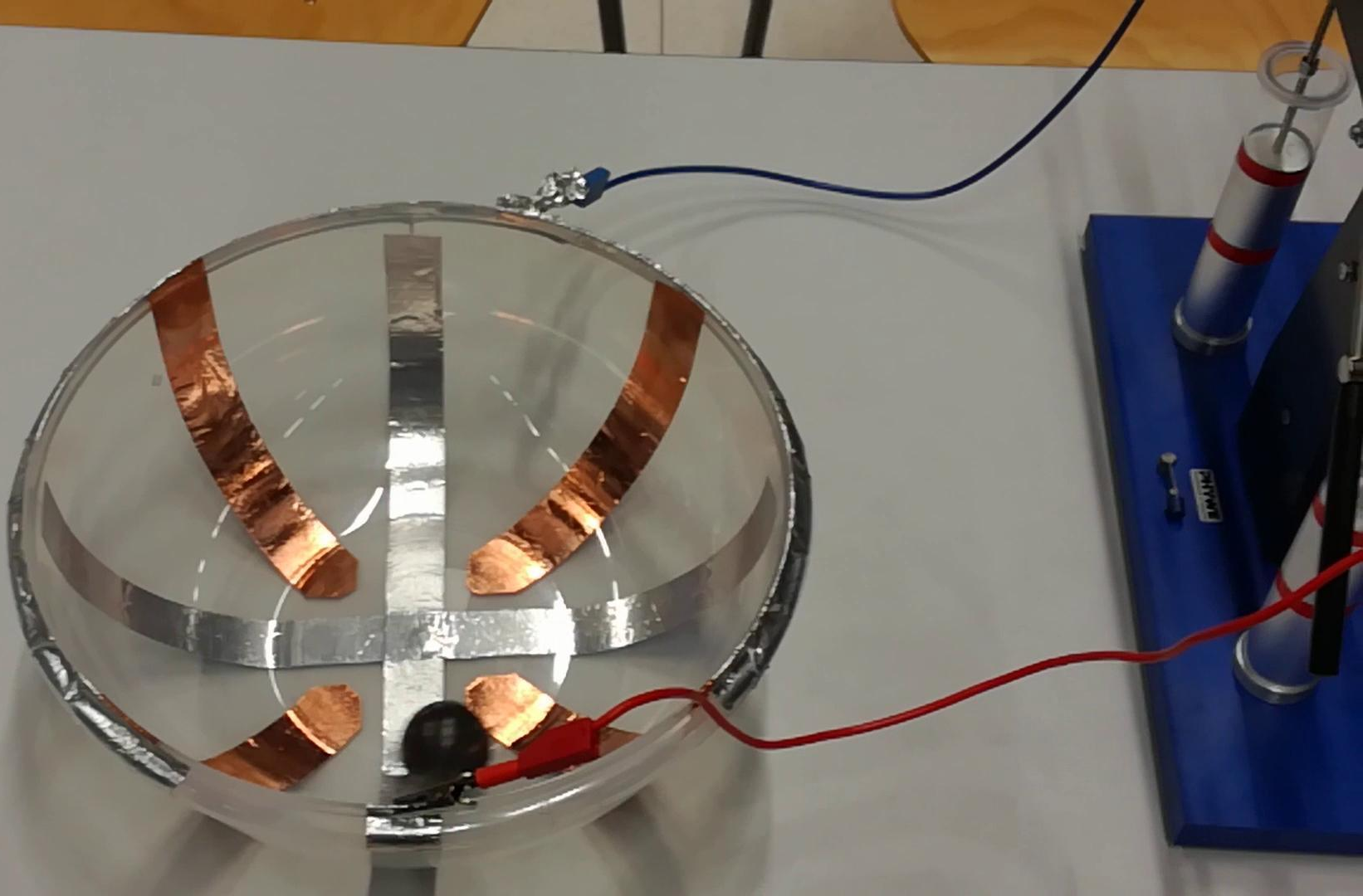
- The idea
- The journey
- The result

The Idea



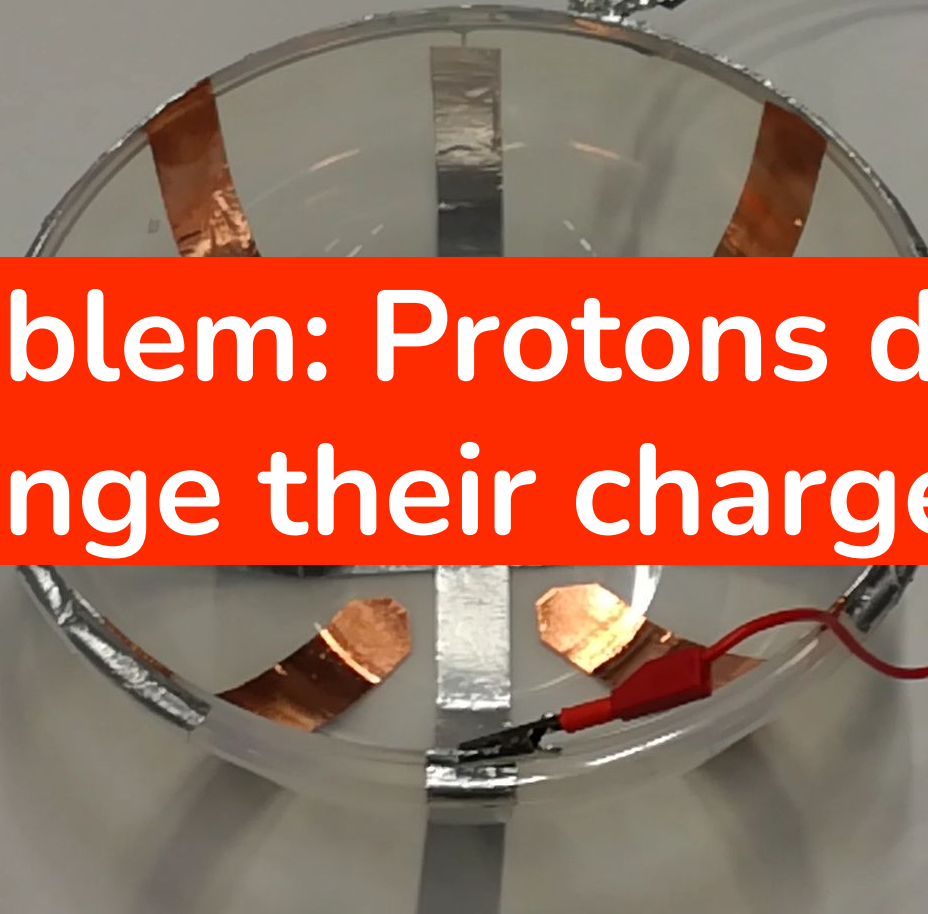
The journey





The journey: salad bowl accelerator

Problem: Protons don't change their charge.





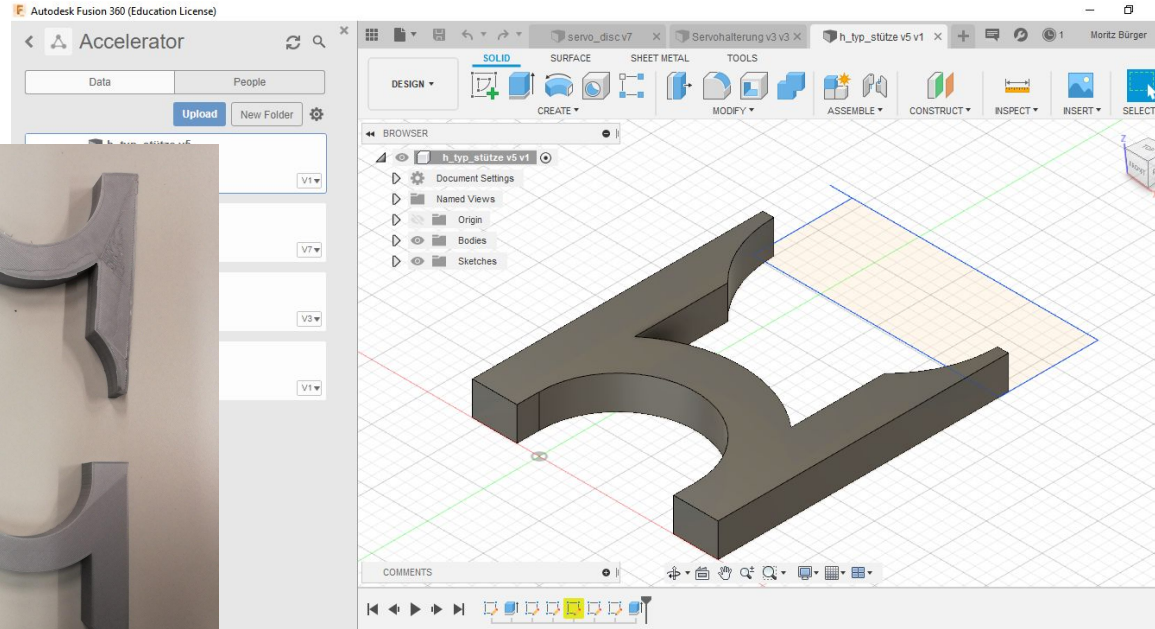
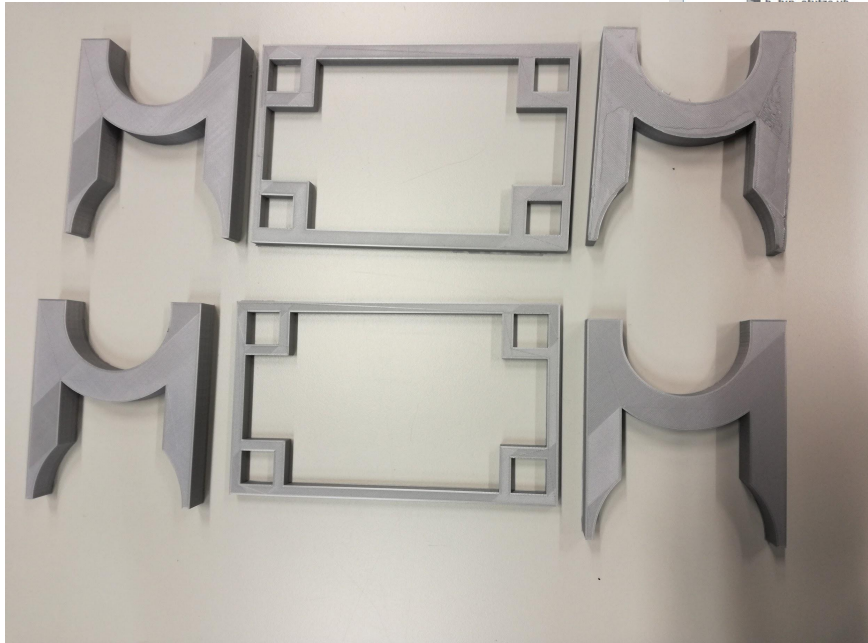
The Journey: The linear accelerator

How to...

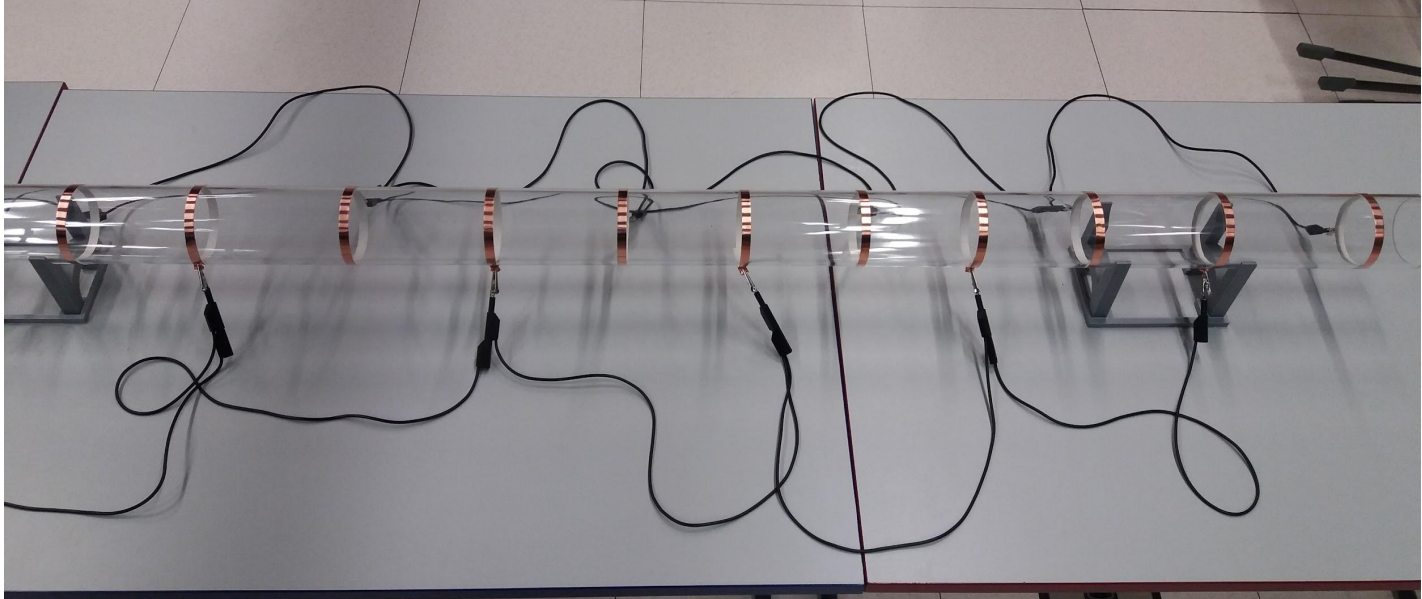
1. build the tube
2. provide alternating voltage



1. The tube



1. The tube



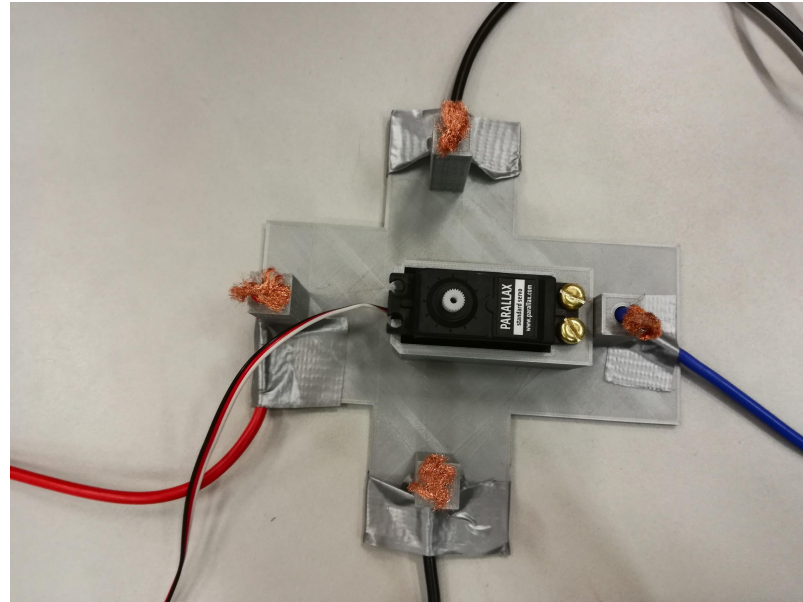


2. Alternating voltage

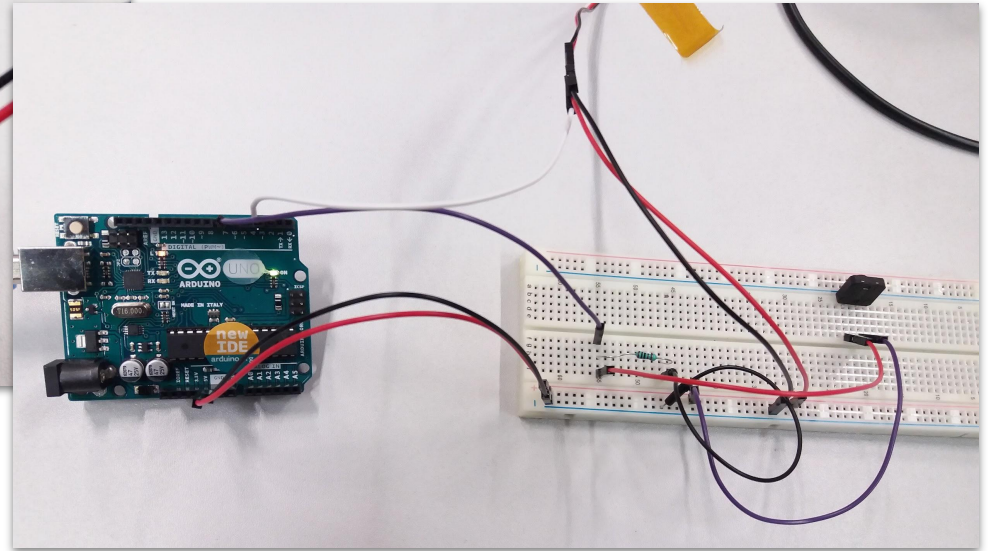
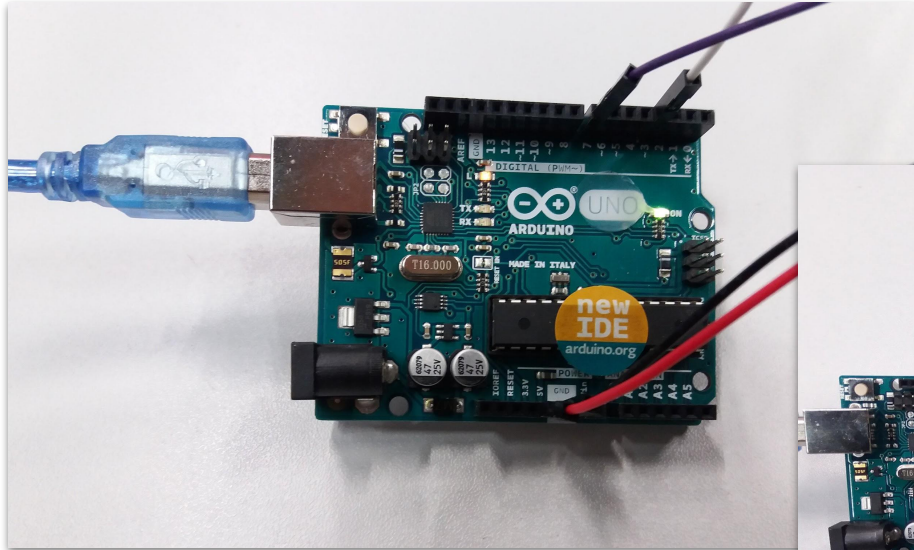
How to ...

1. Construct
2. Control

1. The construction



2. The control



What's
Wrong?!





Servo out of control

Hypothesis:

- disturbing signal
- bug in the code



The solution

- bug in the code → enhanced by disturbing signals → uncontrolled movement
→ **fix the bug**

The result



With special thanks to the best supervisors!

- Fabian Bernstein
- Oliver Keller

