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The Mechanical Paul Trap: A Playful Introduction to Ion Trapping for Upper Secondary Students

With the power of 3D printers and simulations, there are plenty of opportunities to make concepts in modern physics more available. A 3D-printed physical model of a particle trap, the Paul trap, has been developed alongside a simulation focused on implementation in Swedish upper secondary physics education. The Paul trap is an example of a method used in many areas of modern physics, such as particle accelerators and quantum computers. These areas often manage to spark an interest among the general public for various reasons. Using a mechanical analog and a simulation of a Paul trap, it's possible to qualitatively understand the method and allow students to explore a complex system independently.

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