

1. Individual solutions



<http://www.remote-lab.de>



Optical Tweezers

Optical tweezers allow manipulation of small glass balls with a laser-beam.

The user controls the microscope and the laser as well as the preparation-table.



Driving Robot

The driving robot is a small vehicle with a camera attached to it. A second camera observes the labyrinth with the robot from outside.


The user controls the robot.



H2-Lab: Electrolysis

In the H2-Lab the power of wind is used to produce energy regeneratively, to produce hydrogen in a remote-controlled electrolyser and drive a simulated hydrogen-car as far as possible.

2. Standardized interfaces

Remote Controlled Laboratories Fernsteuerbare Experimente im Internet		
R-Lab 1: Elektronen- beugung		Sehen sie die Beugung von Elektronen an einer Graphitfolie. Verändern sie die Beschleunigungsspannung. Werten sie Ihre Messungen aus.
R-Lab 2: Der heiße Draht		Steuern sie einen Roboter durch den heißen Draht. Erleben sie Fischertechnik übers Internet und bringen sie Ihre eigenen Roboter online.
R-Lab 3: Beugung am Doppelspalt		Untersuchen sie die Beugung am Doppelspalt. Verändern sie die Spaltkonfiguration und werten sie Ihre Messungen aus.
R-Lab 4: Optische Computertomographie		Verstehen sie die Computertomographie anhand eines analogen Aufbaus. Konstruieren sie die Aufsicht des Versuchsaufbaus aus seitlichen Aufnahmen.

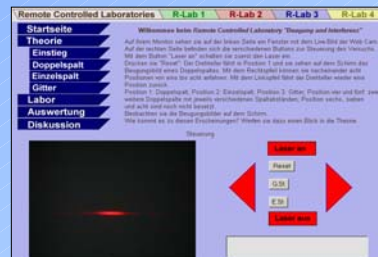
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Diffraction of Electrons

The CASSY-Interface from Leybold allows the setup of technically demanding RCL.

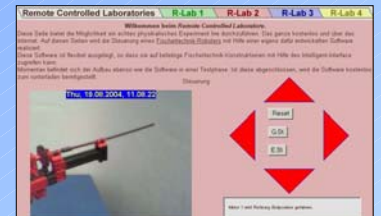
Here, the user can change the acceleration voltage and thus the wavelength of electrons that are scattered at a graphite foil.



Double-Slit Diffraction

Here, the Intelligent-Interface from Fischertechnik is used to setup a typical school-level experiment.

Different double-slit configurations can be used to examine the diffraction.



Robotic-Arm

The Intelligent-Interface from Fischertechnik is used for simpler RCL.

For demonstration and testing purposes the user can control a robotic-arm.



Optical Computer Tomography (in development)

Here, the Intelligent-Interface from Fischertechnik is used to setup an experiment demonstrating the principles of computer tomography via an optical analysis.

An assembly of blocks is observed and the cross-section-view can be constructed.