

Erweiterte Physik-Vorlesungsexperimente

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<http://ephex.phys.ethz.ch>



Why classroom demonstrations?

- surprise & fun
- demo. experiments are a central part of teaching „introductory physics“ at D-PHYS
- stimulate the students' curiosity
- motivate involvement of students
- support conceptual learning

ETH's great tradition!

- more than 700 experiments
- 8 different introductory physics courses for ~2'500 students/year in 12 departments
- 3 employees involved full-time in setting-up and maintaining the demo. experiments

What is ePhEx?

- students re-view the videos of the experiments at their leisure
- students combine video and detailed description for in-depth learning
- students explore unusual parameters in the applets

Lessons learned

- [+] data-base management and web-site development with external partner
- [+] in-house hosting and maintainance of the system
- [+] collaboration with ETH Multimedia Service team
- [-] time required to produce the videos (plus comments and applets)

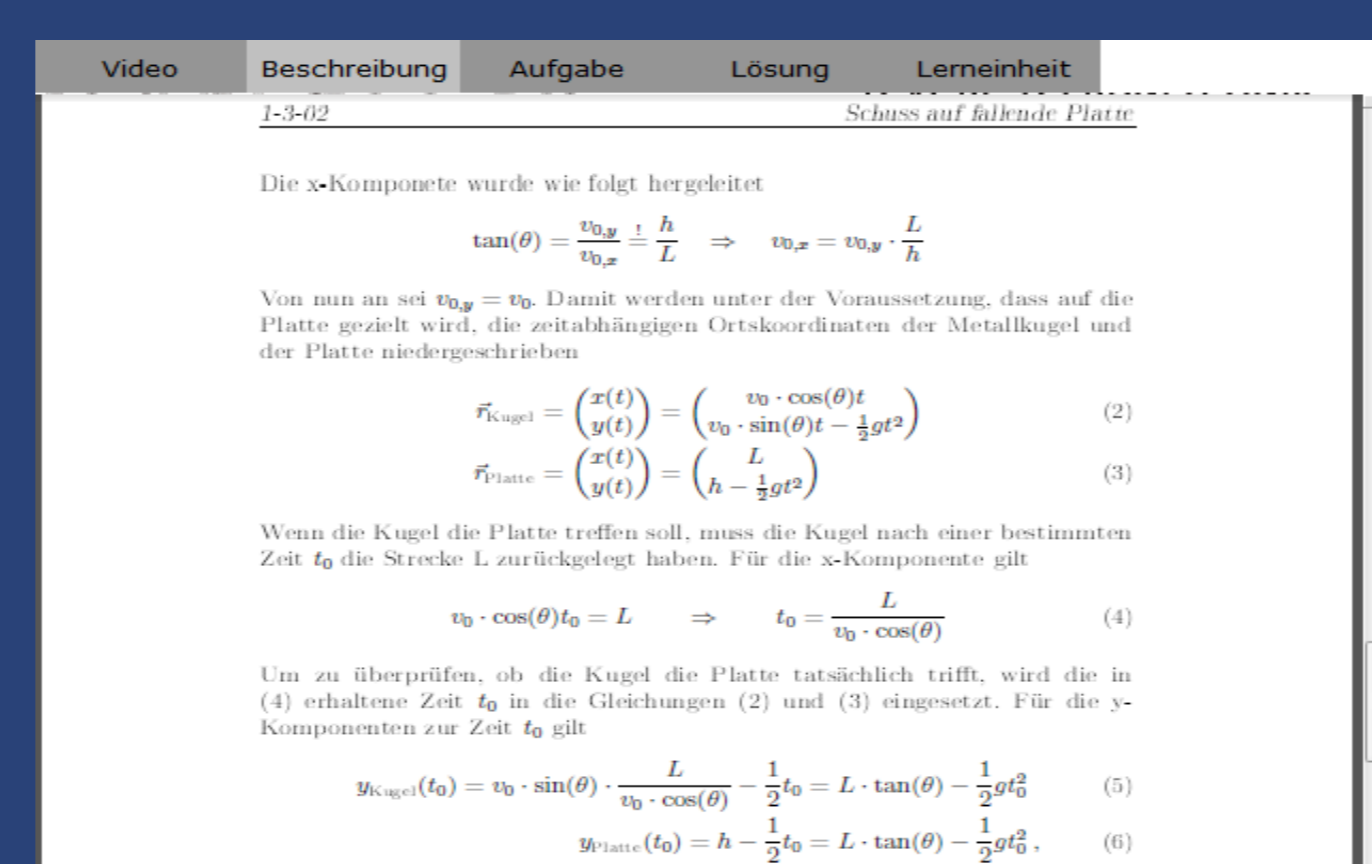
Status & plans

- ~110 experiments are video taped
- 35 associated applets
- 25 associated exercise problems
- 40 videos in the „cutting room“
- 50 experiments in the waiting queue
- systematic evaluation has started on how students use ePhEx

ePhEx main features (<http://ephex.phys.ethz.ch>)



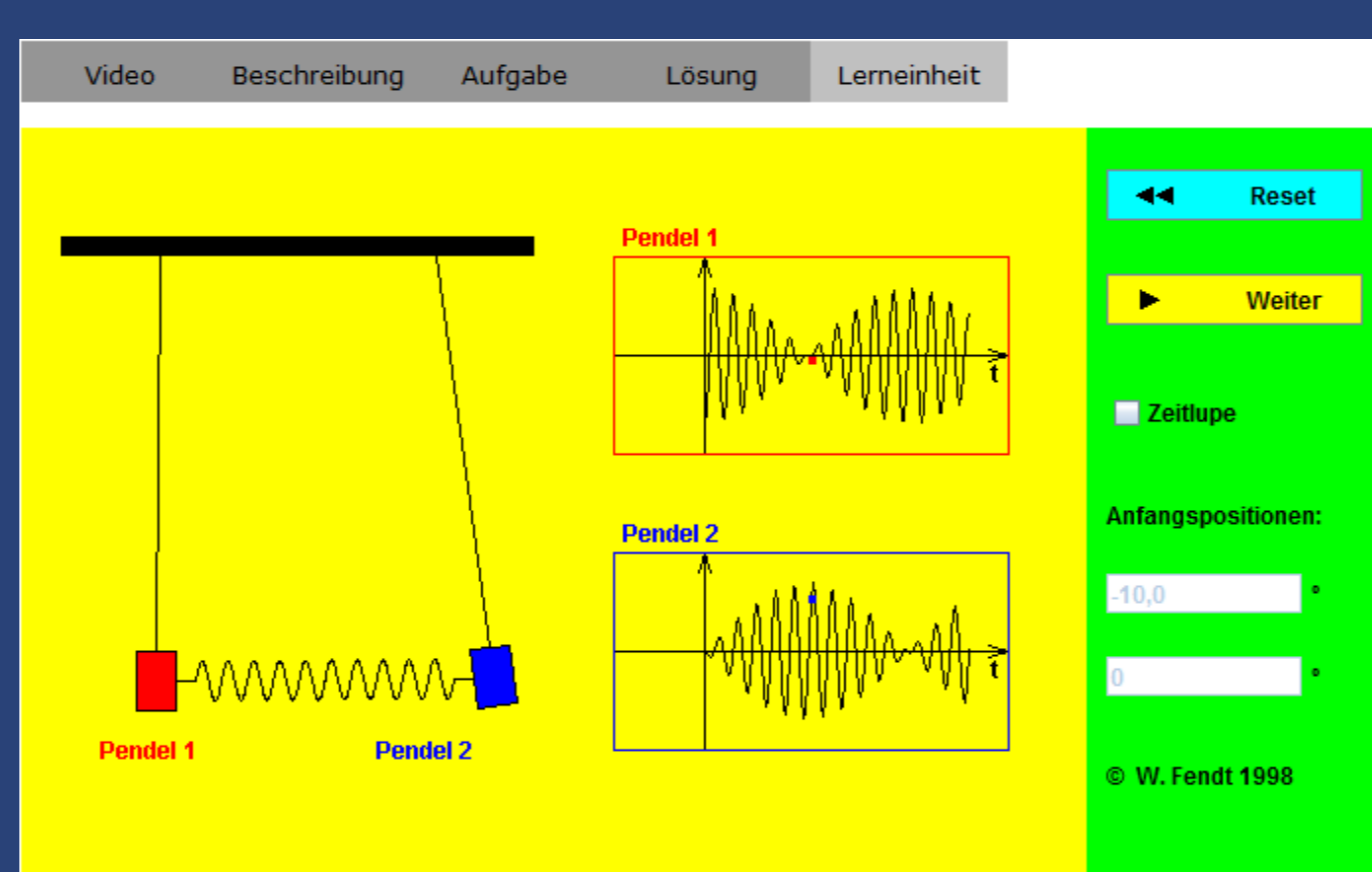
video recordings with audio explanations



texts describing the physics



exercise problems



interactive simulation applets

innovedum

Innovedum Anlass, 7. und 21. November 2012

www.innovedum.ethz.ch