

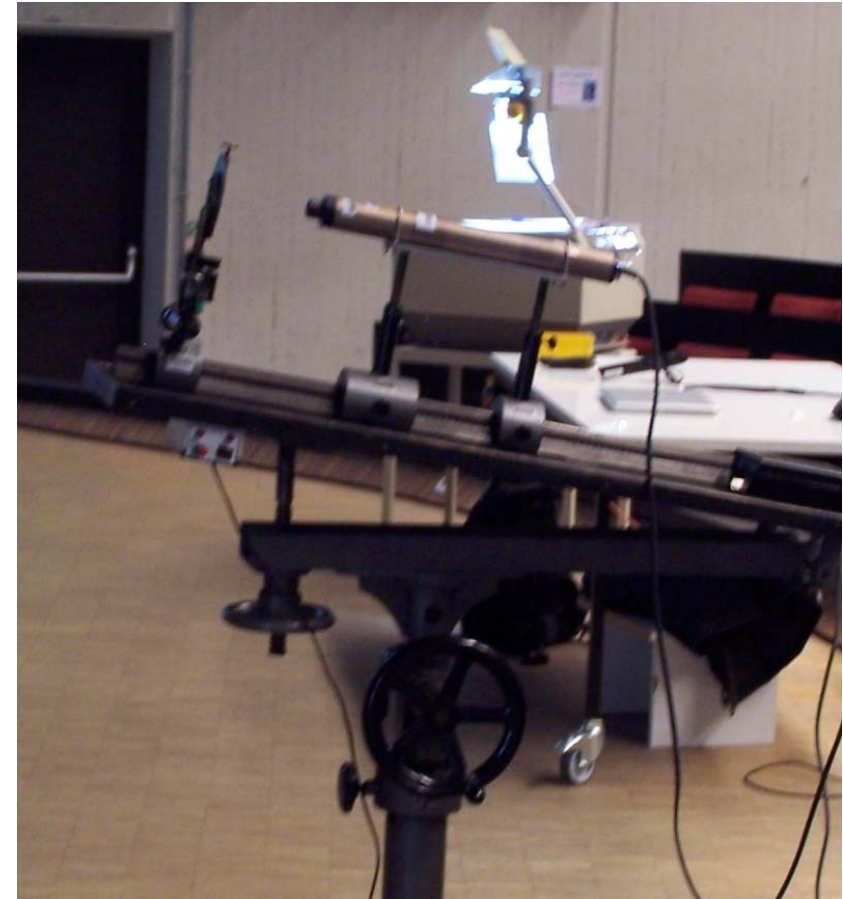
Versuche zur Vorlesung Physik für Maschinenbau

Vorlesung 10

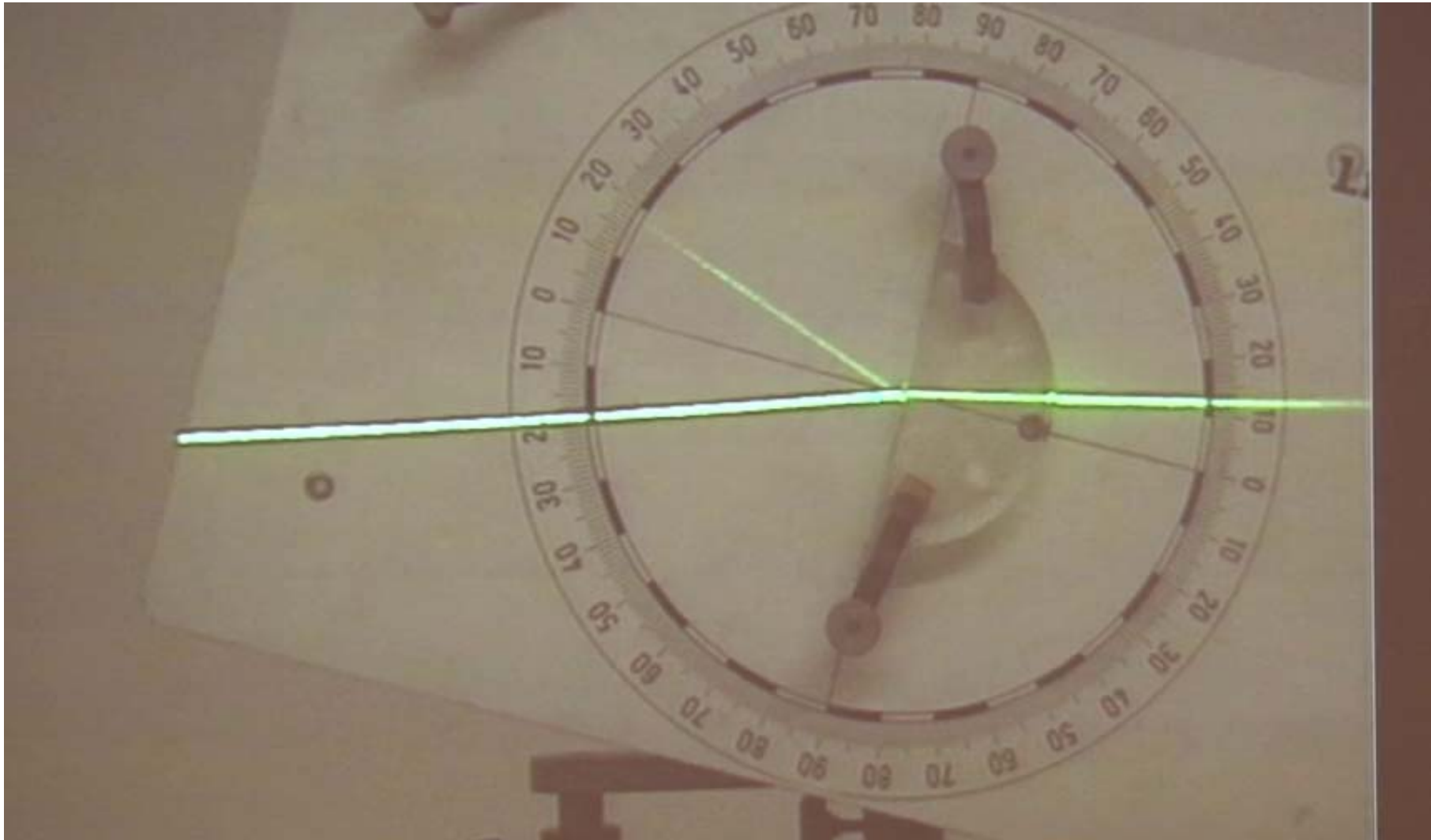
Dr. Thomas Kirn



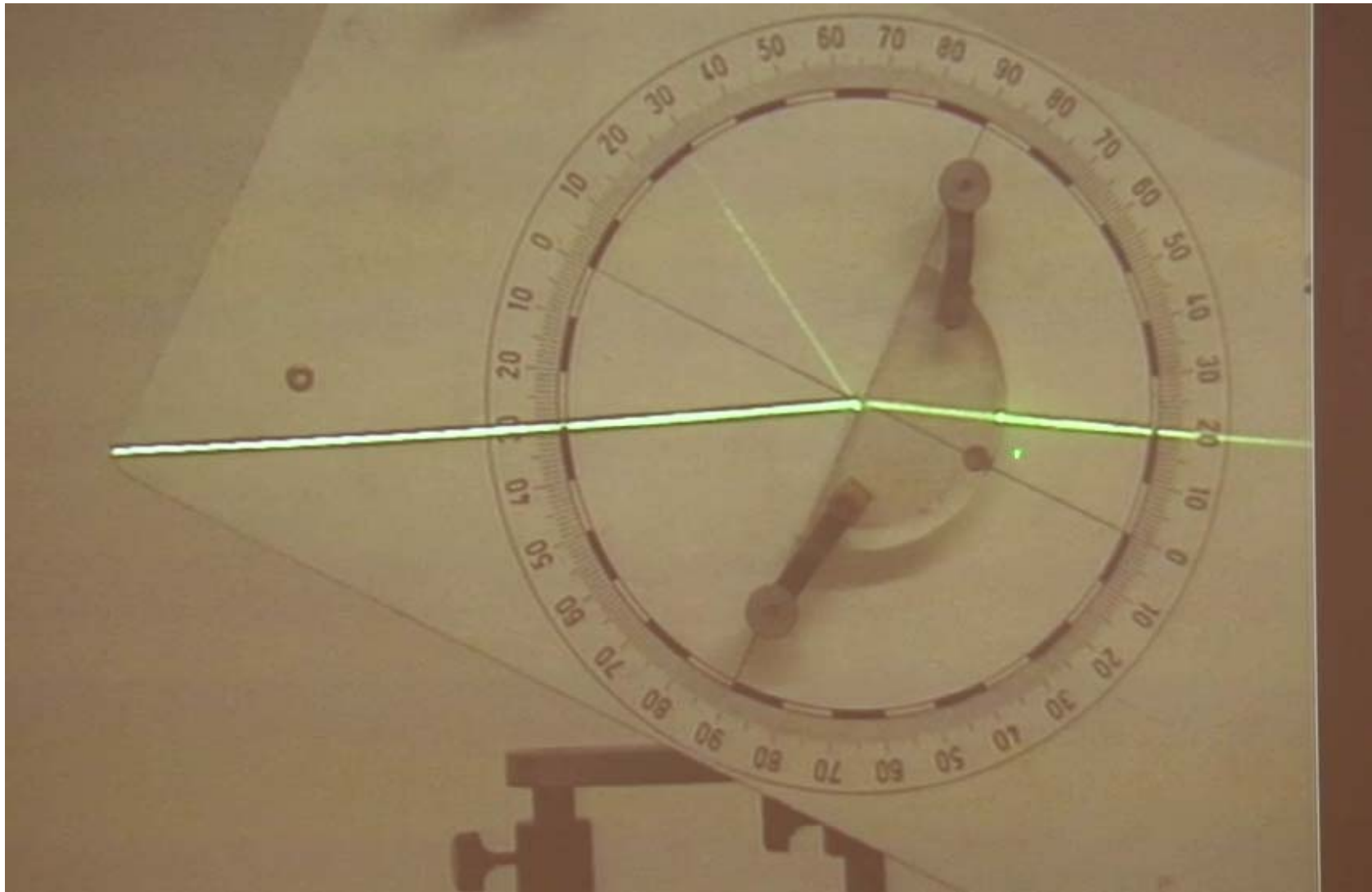
Wiederholung Wellenlehre: Beugung am Spalt, Laser



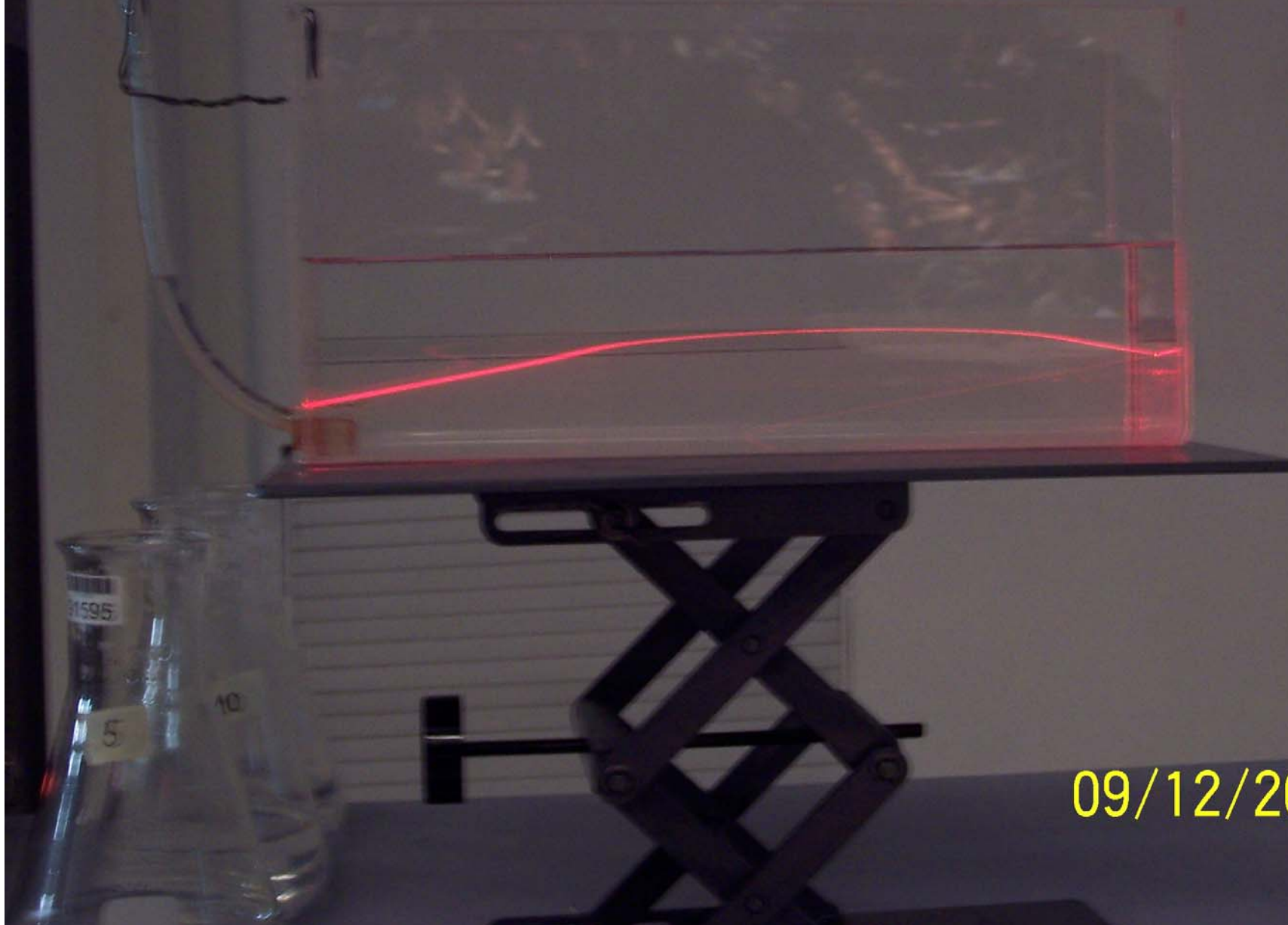
Wiederholung Wellenlehre: Reflexion



Wellenlehre: Brechung

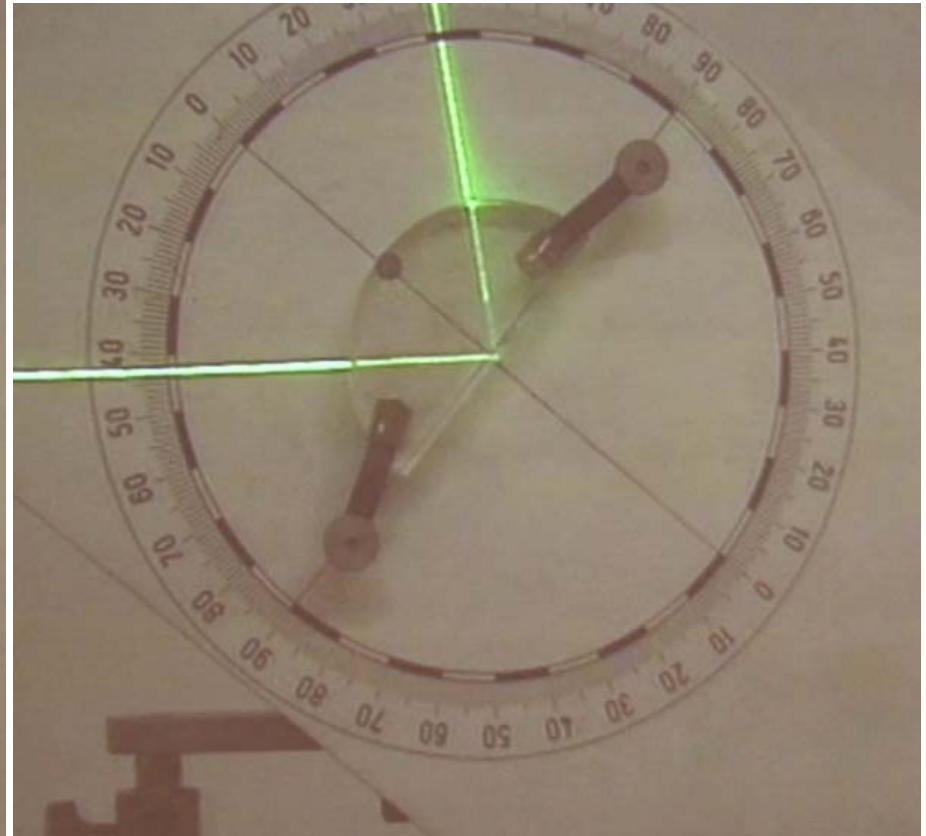
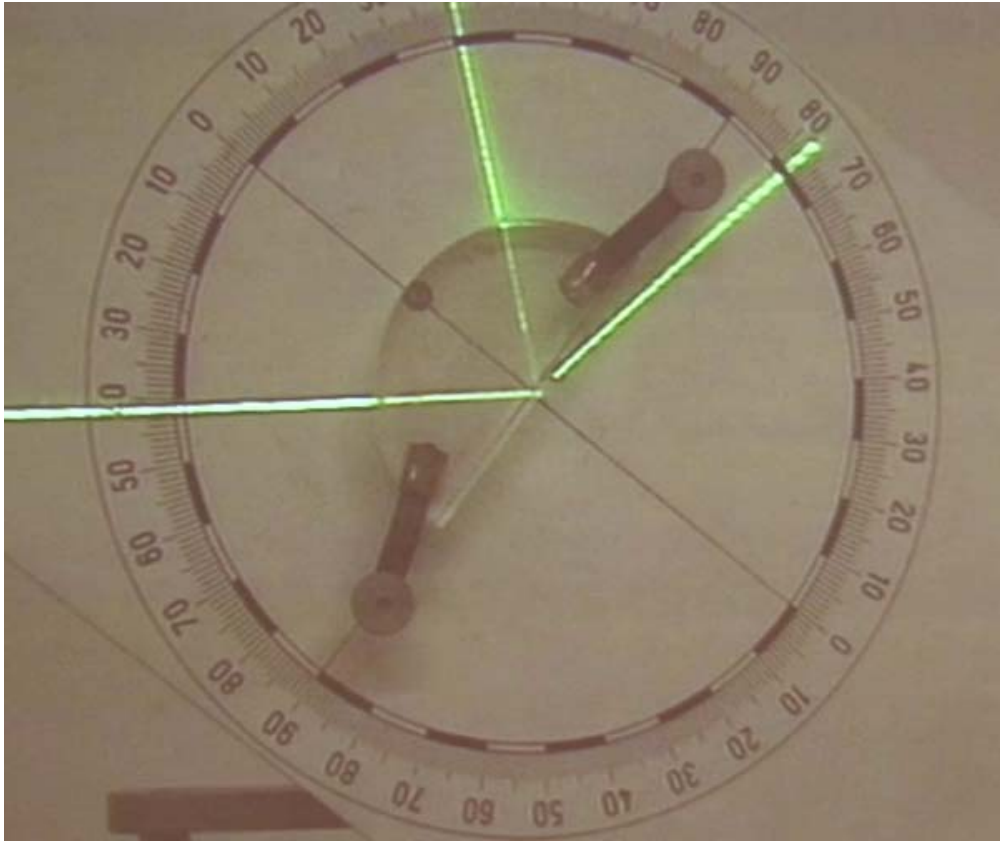


Wellenlehre: Totalreflexion, Fata Morgana

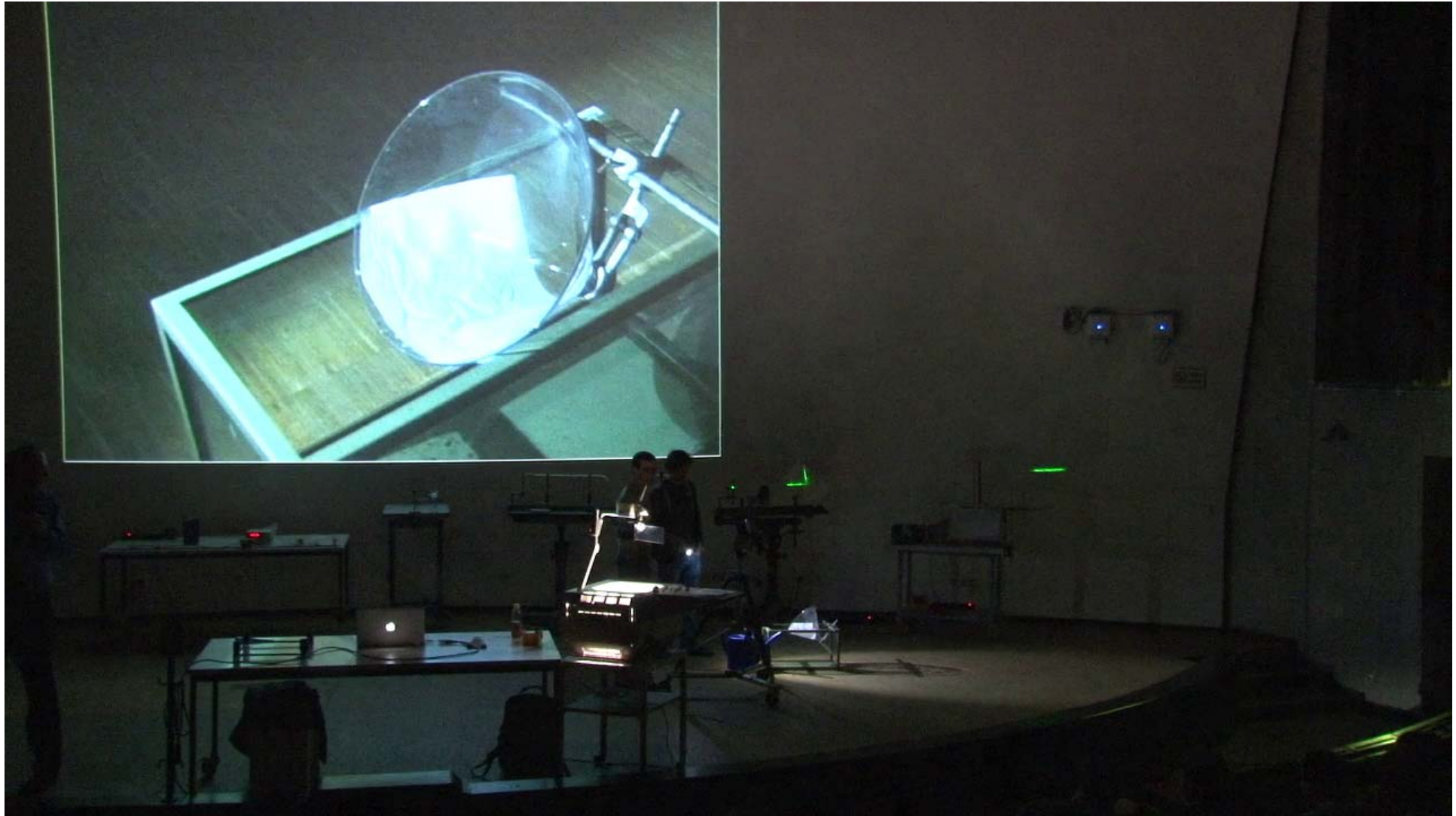


09/12/2011

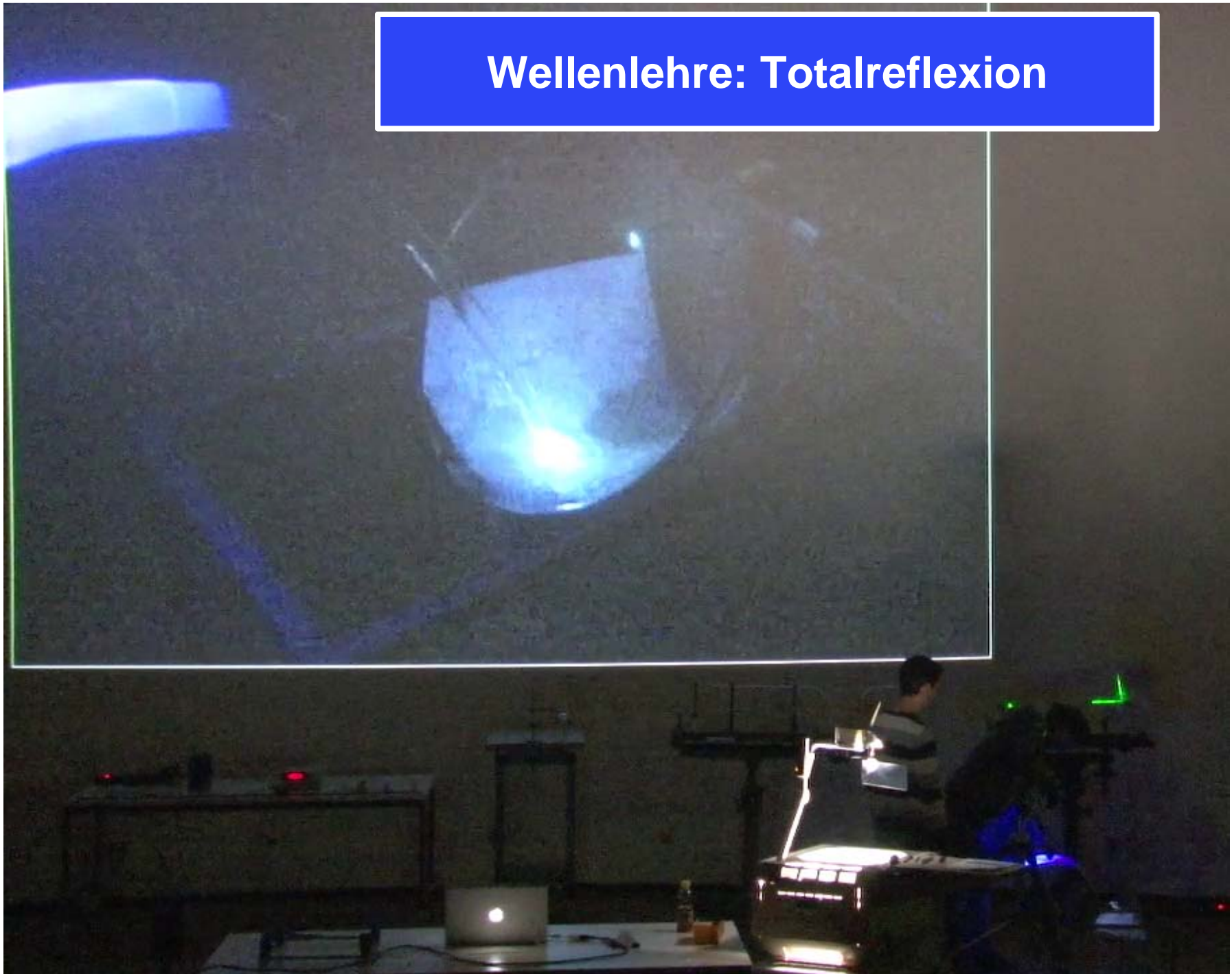
Wellenlehre: Totalreflexion



Wellenlehre: Totalreflexion



Wellenlehre: Totalreflexion

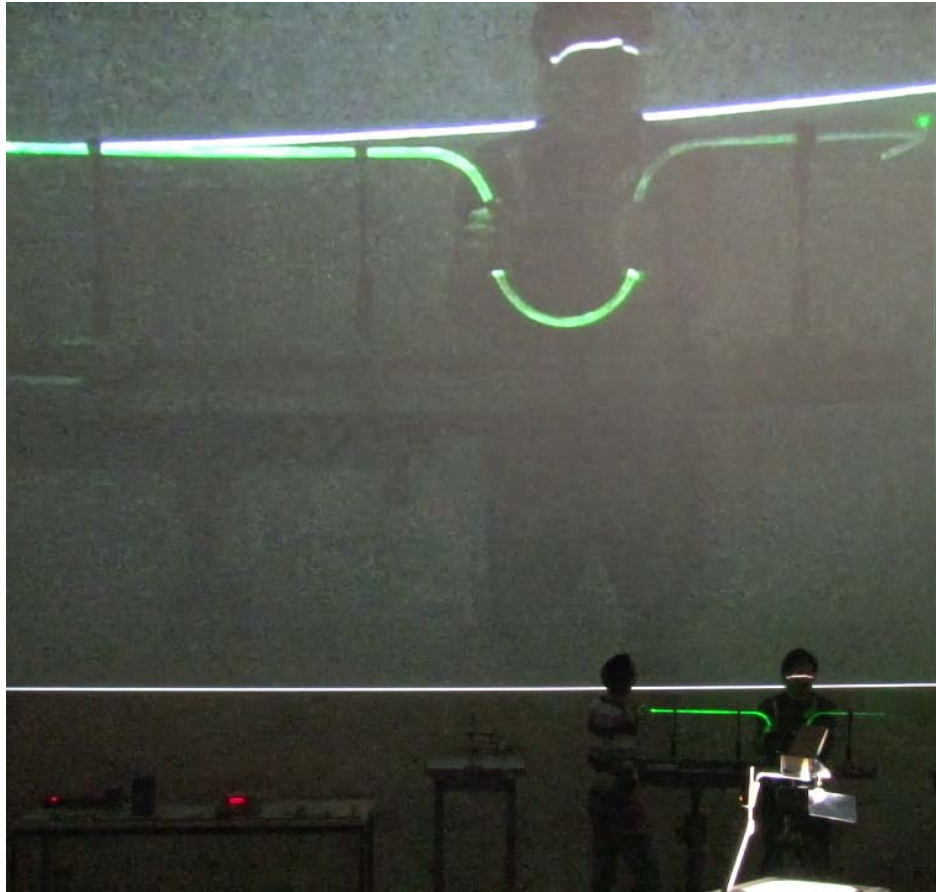
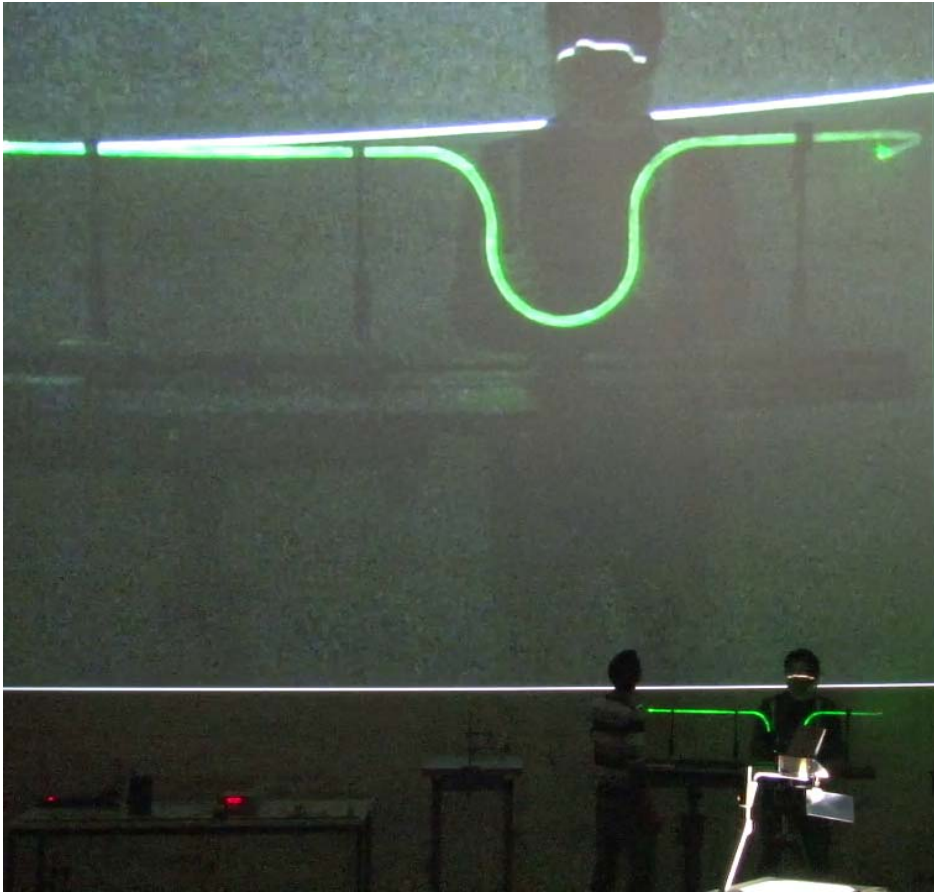


Wellenlehre: Totalreflexion

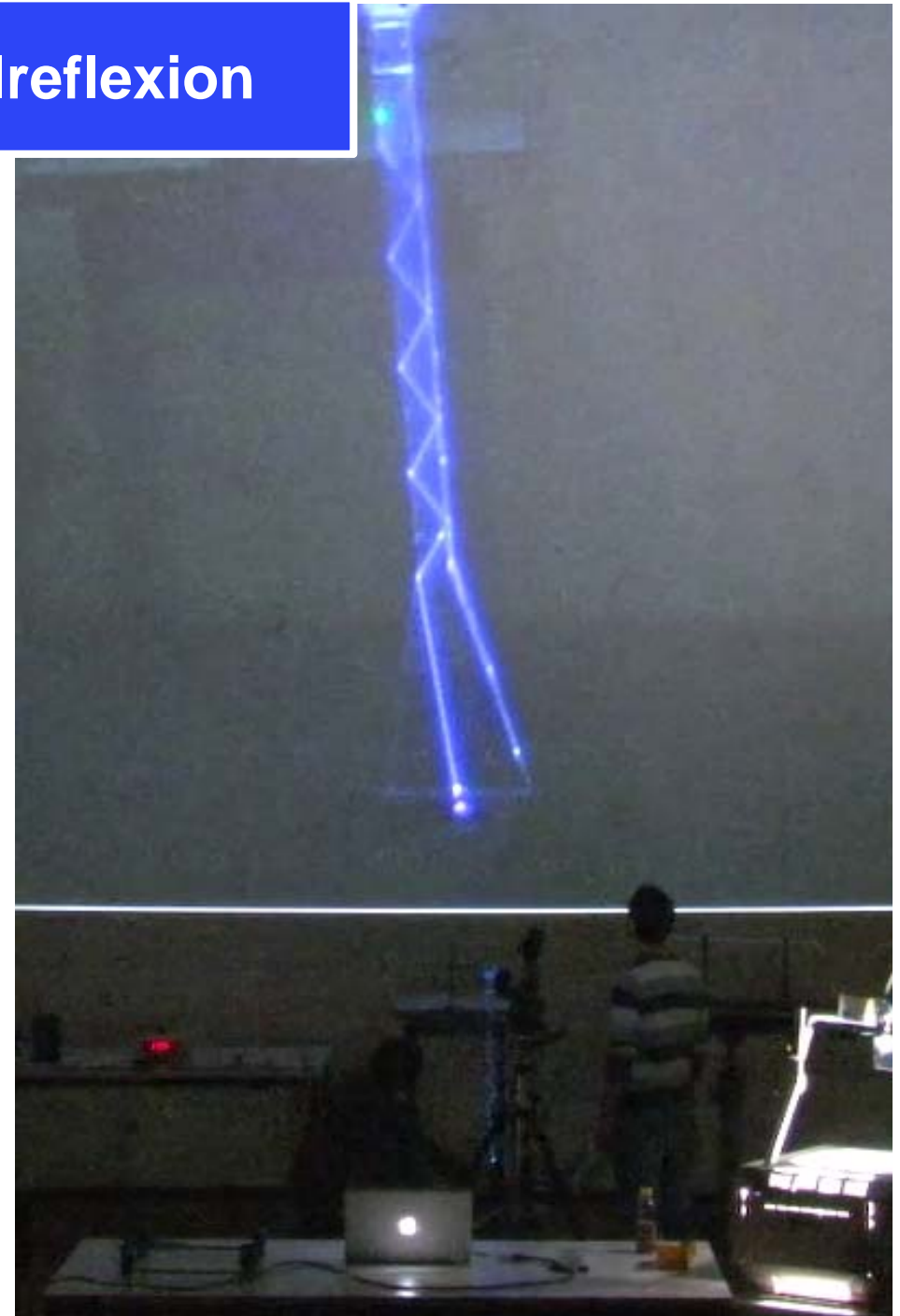


16/12/2011

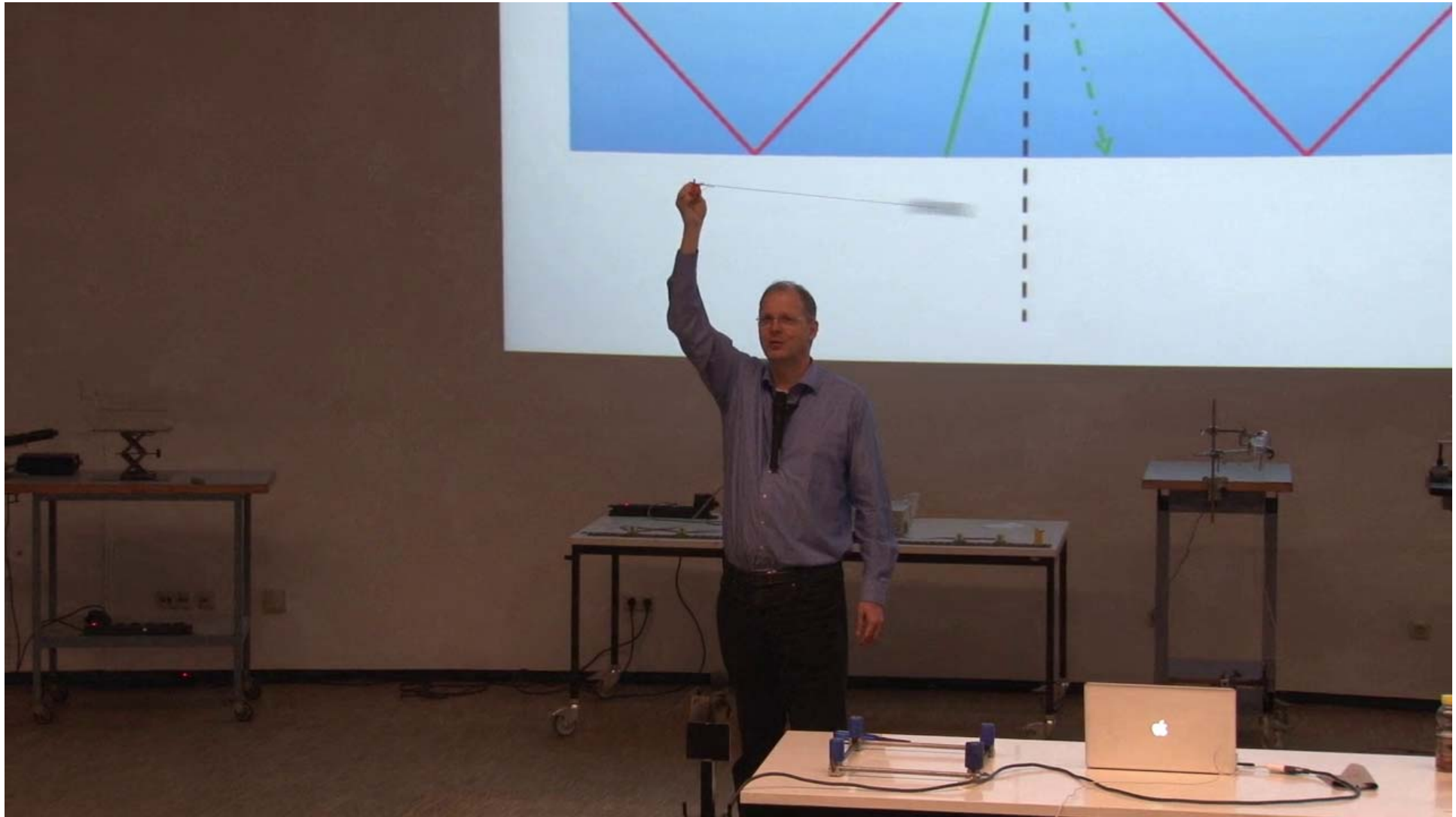
Wellenlehre: Totalreflexion



Wellenlehre: Totalreflexion



Wellenlehre: Dopplereffekt, Sirene

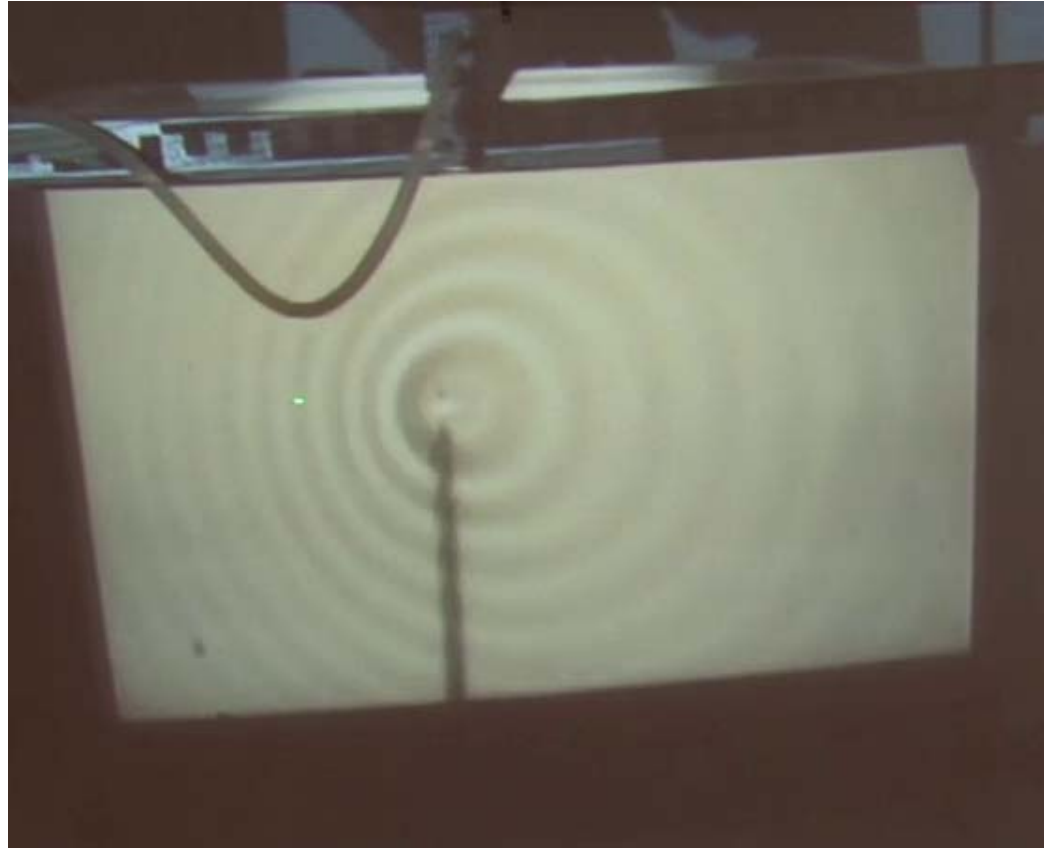
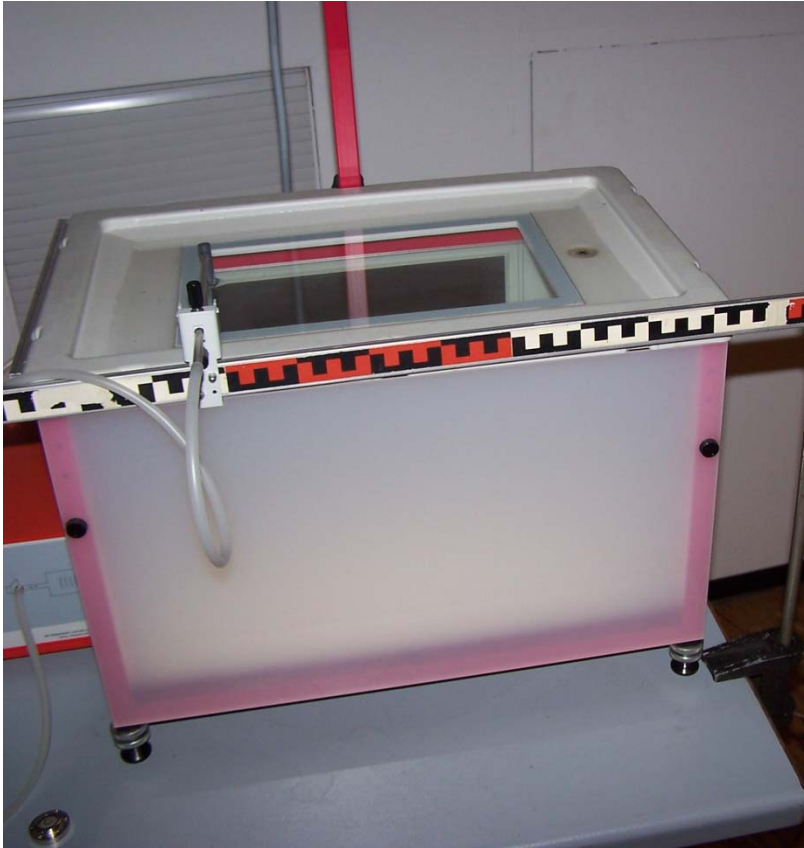


Wellenlehre: Dopplereffekt, Wellenwanne

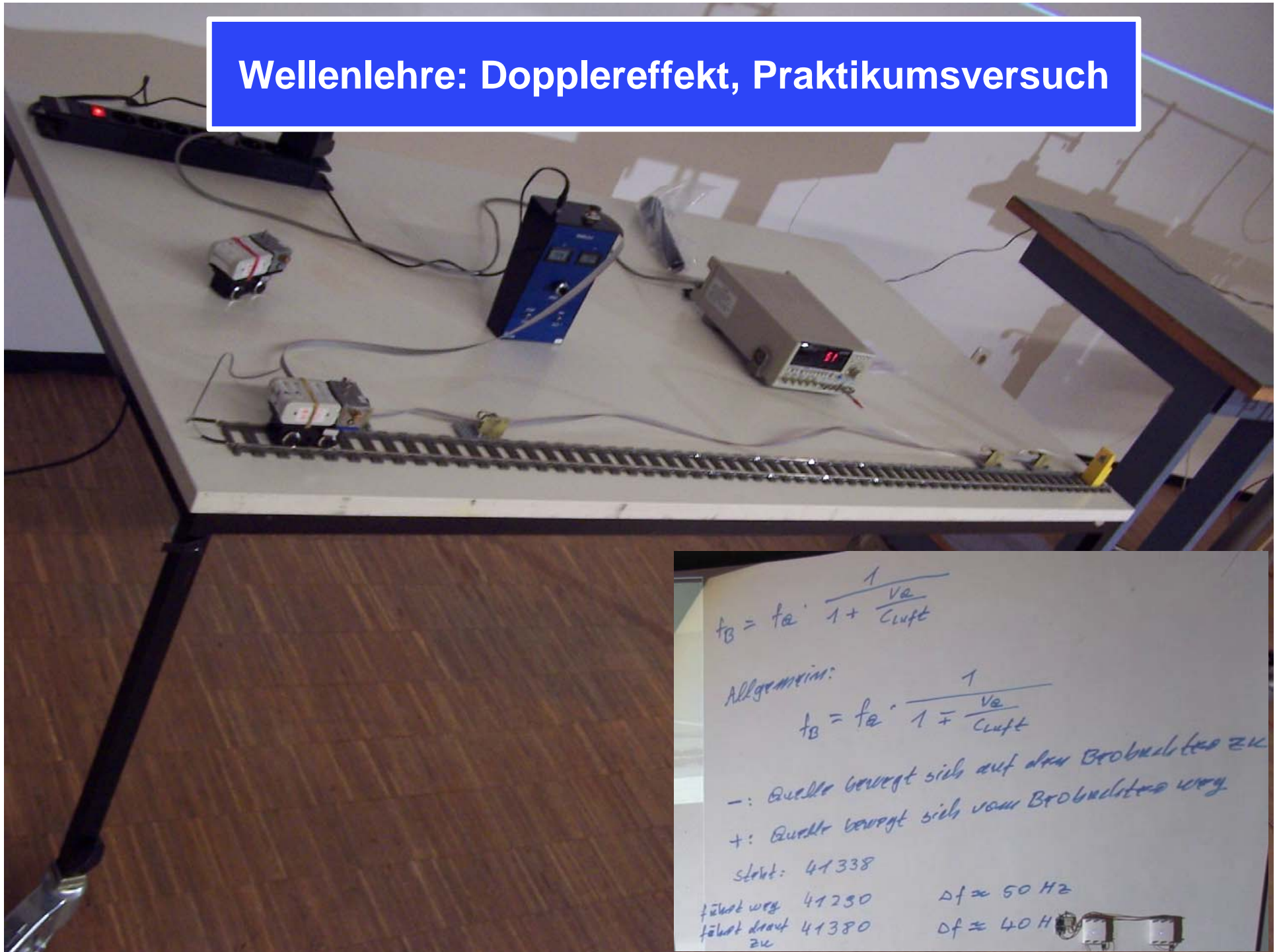


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Wellenlehre: Dopplereffekt, Wellenwanne



Wellenlehre: Dopplereffekt, Praktikumsversuch



$$f_B = f_a \cdot \frac{1}{1 + \frac{v_a}{c_{\text{Luft}}}}$$

Allgemein:

$$f_B = f_a \cdot \frac{1}{1 \mp \frac{v_a}{c_{\text{Luft}}}}$$

-: Quelle bewegt sich auf dem Beobachter zu
+: Quelle bewegt sich vom Beobachter weg

steh: 41338

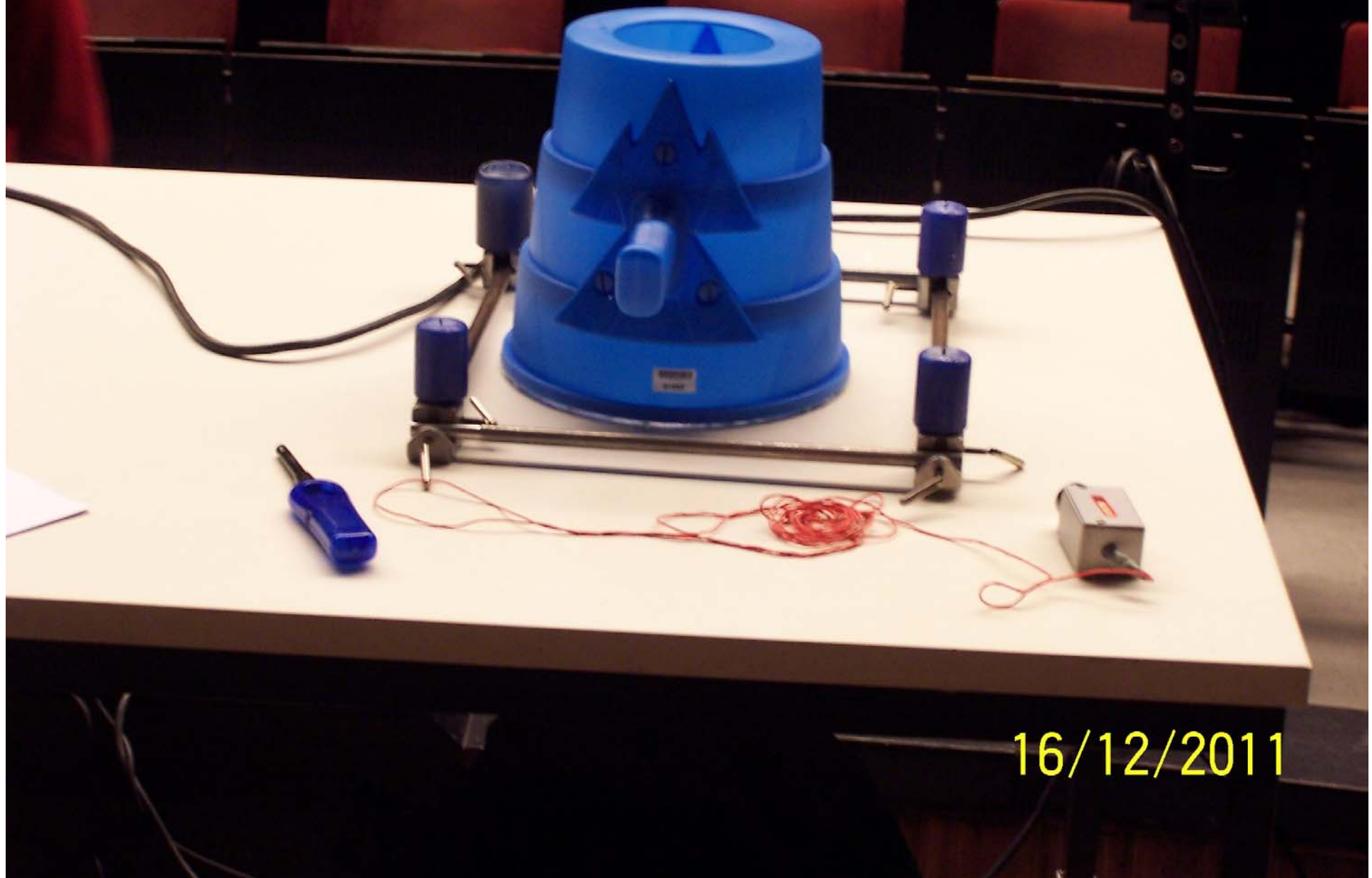
föhrt weg 41230

föhrt drauf zu 41380

$\Delta f \approx 50 \text{ Hz}$

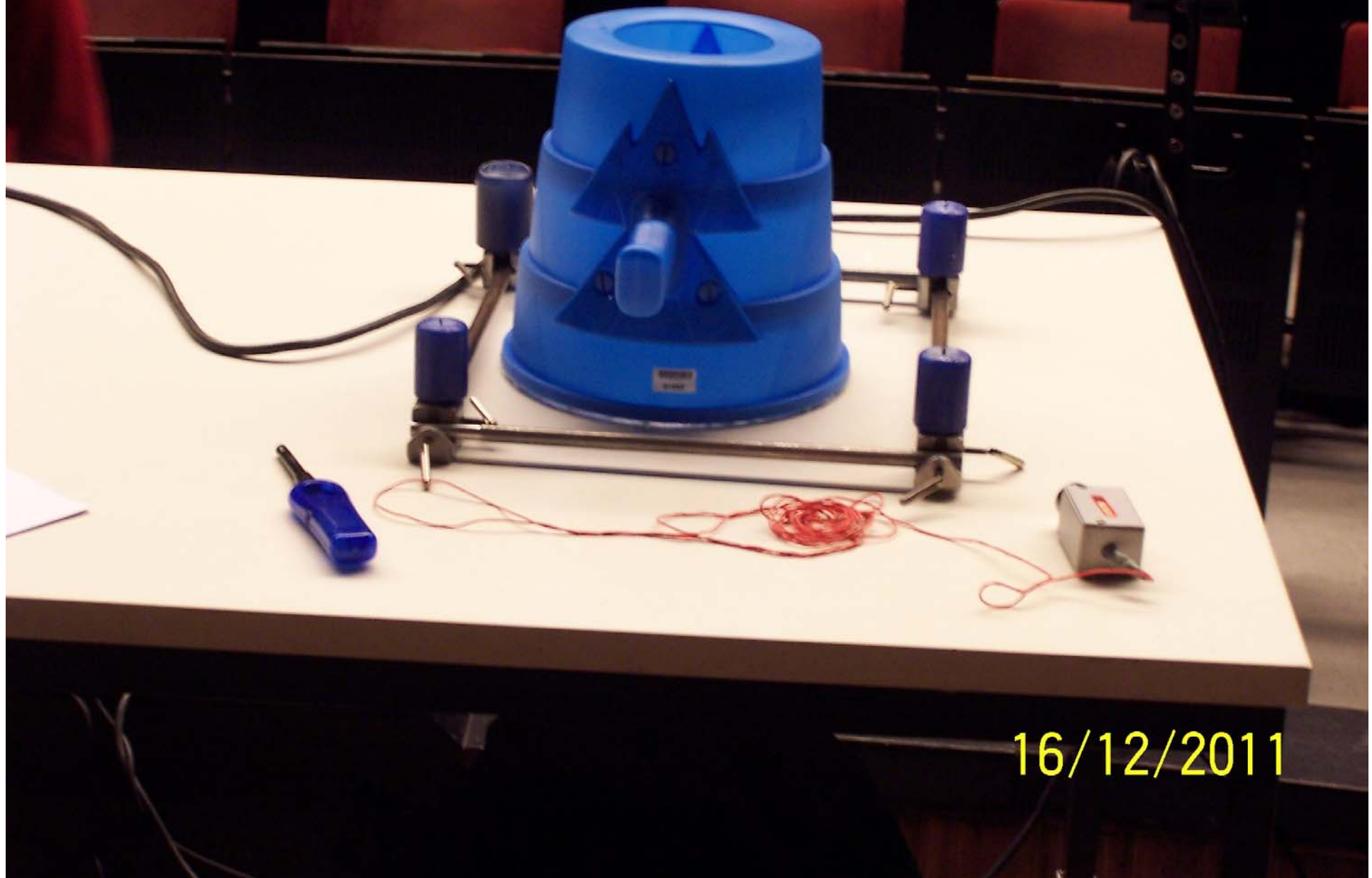
$\Delta f \approx 40 \text{ Hz}$

Adventskranzausblasen mit Bazoka



16/12/2011

Adventskranzausblasen mit Bazoka



16/12/2011