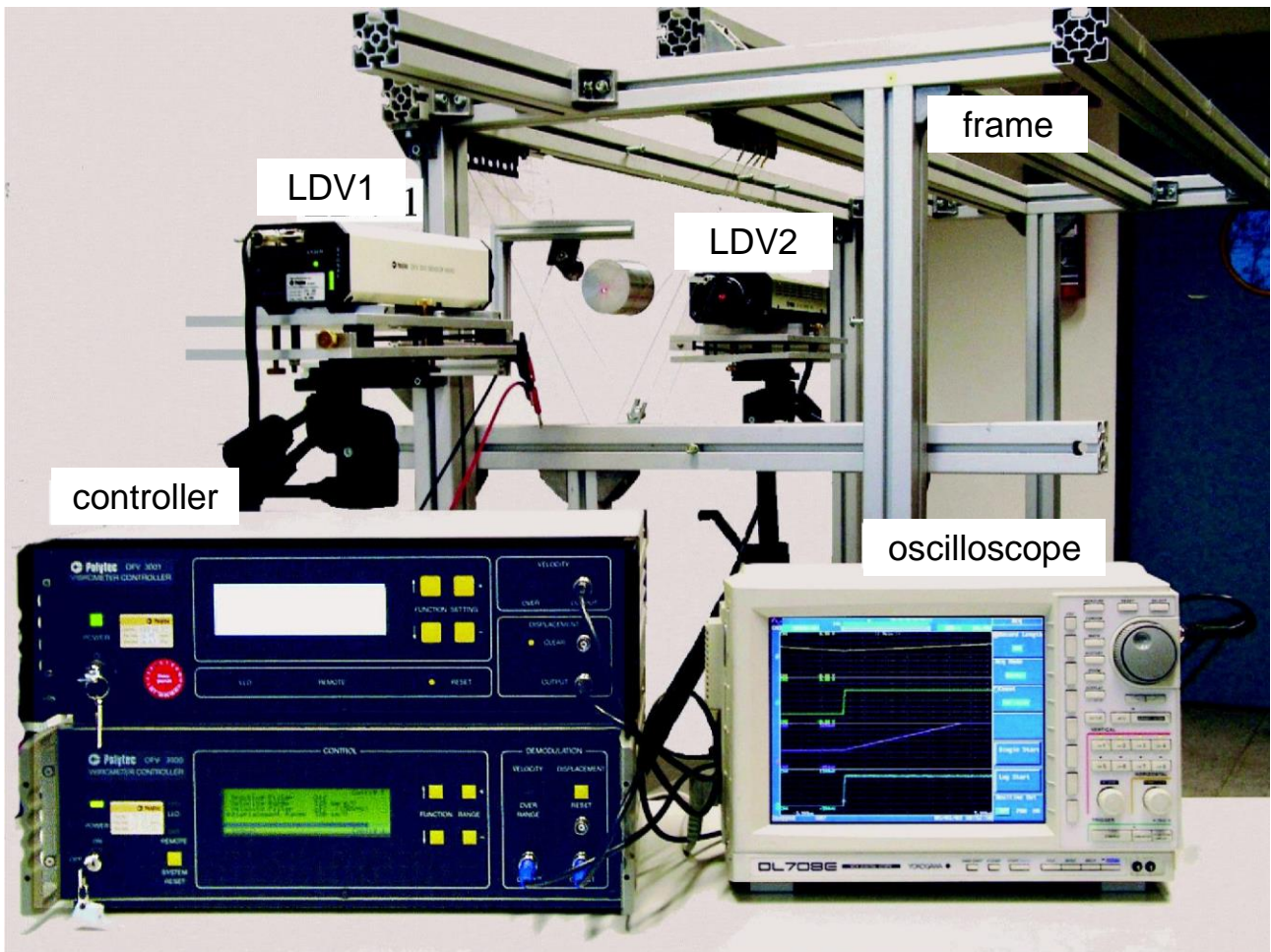
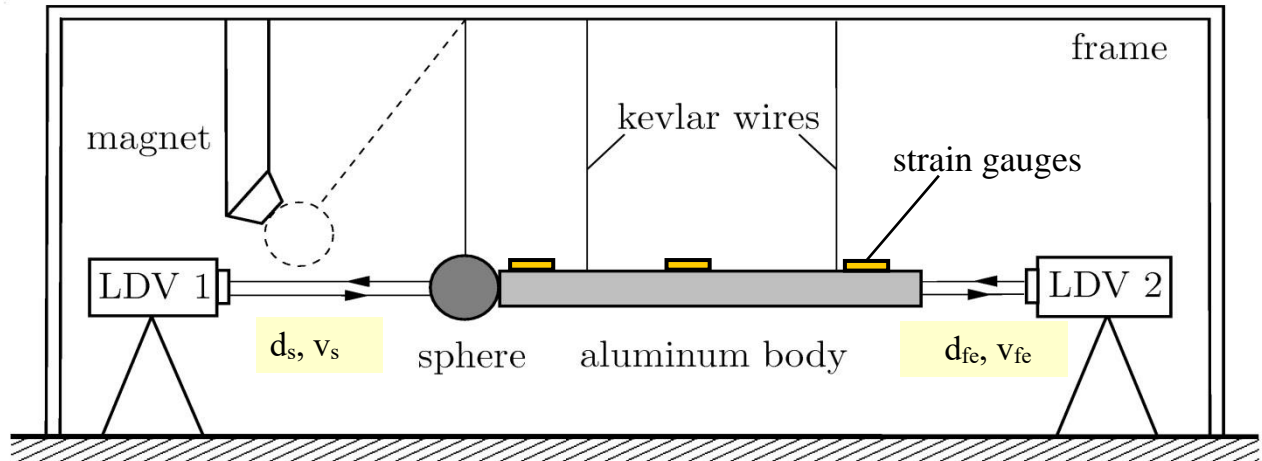




Versuchsaufbau für Stoßanalyse

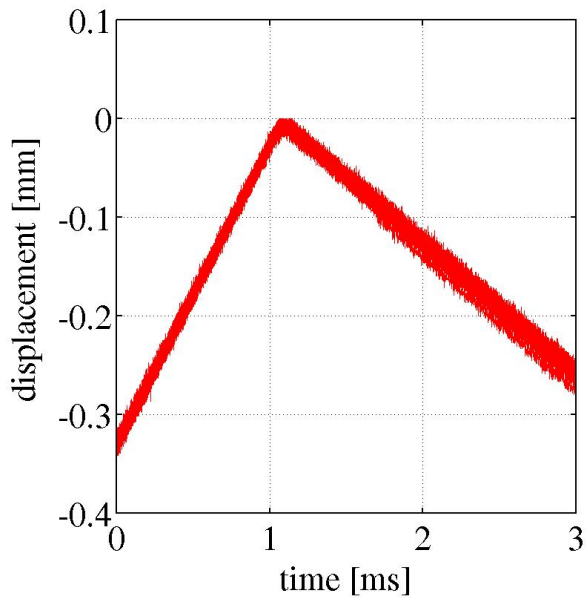




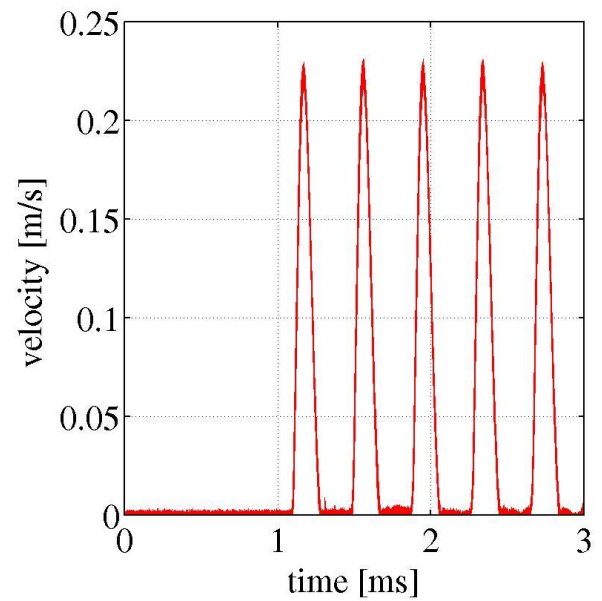
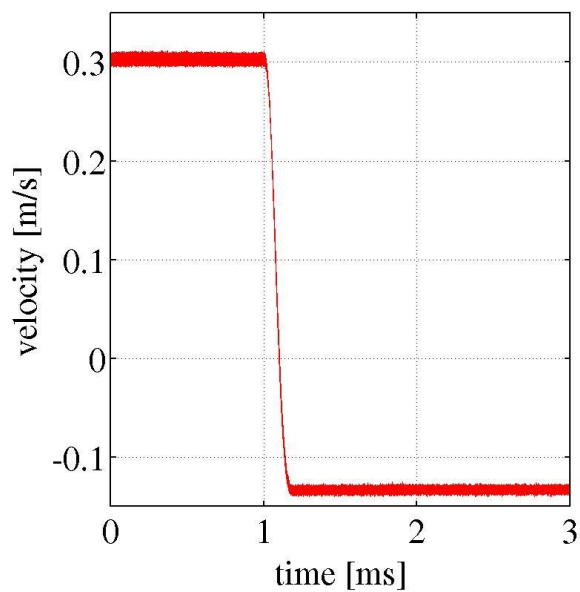
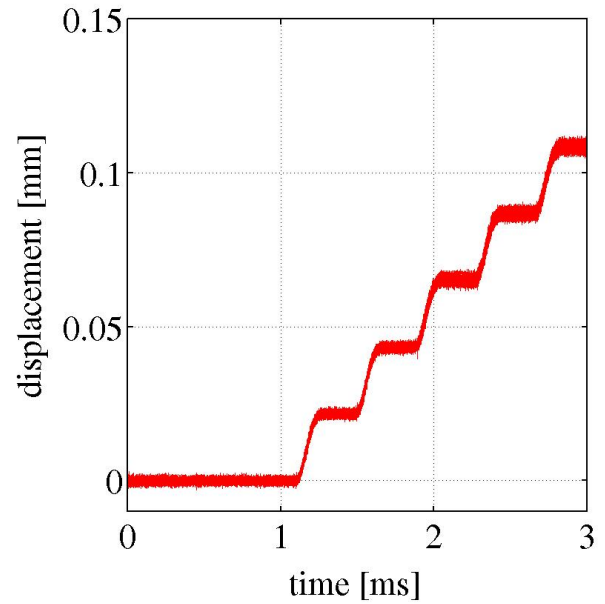
Stoß Stahlkugel-Aluminiumstab: 20 Messung mit LDV

(Kugel: $r=15\text{mm}$, Stab: $r=10\text{mm}$, $l=1000\text{mm}$)

Kugel

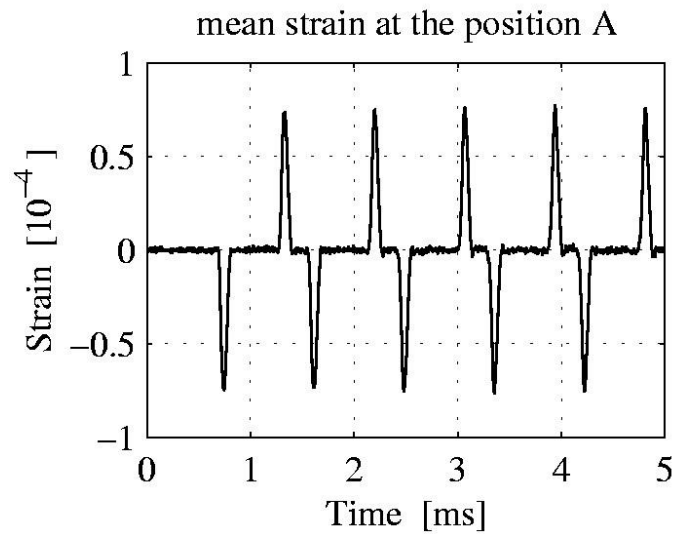
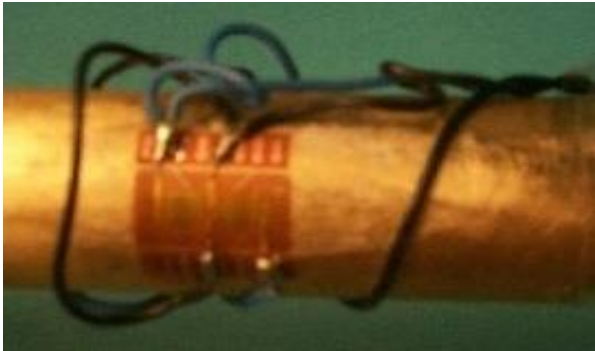


Stab





Messung der Dehnungen am Stab mit DMS



Bestimmung der Stoßkräfte am Stab

aus DMS Messung ε : $F = A E \varepsilon$

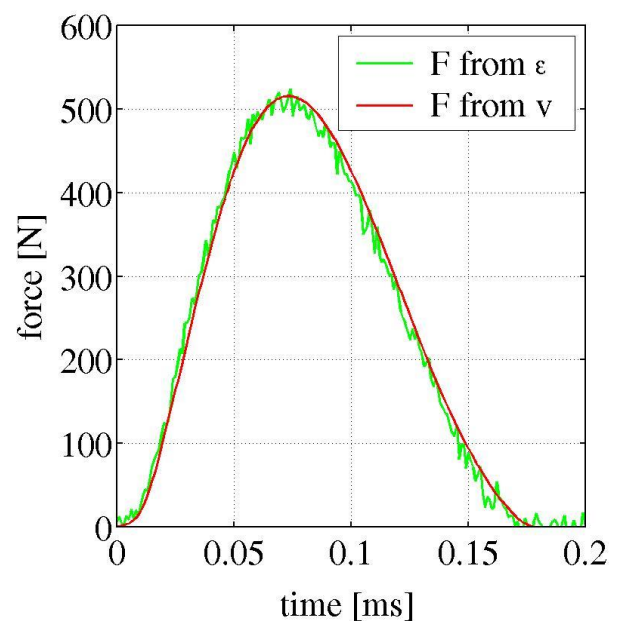
aus LDV Messung v_{fe} : $F = \frac{A E v_{fe}}{2c}$ mit $c = \sqrt{\frac{E}{\rho}}$

A : Querschnittsfläche,

E : E-modul

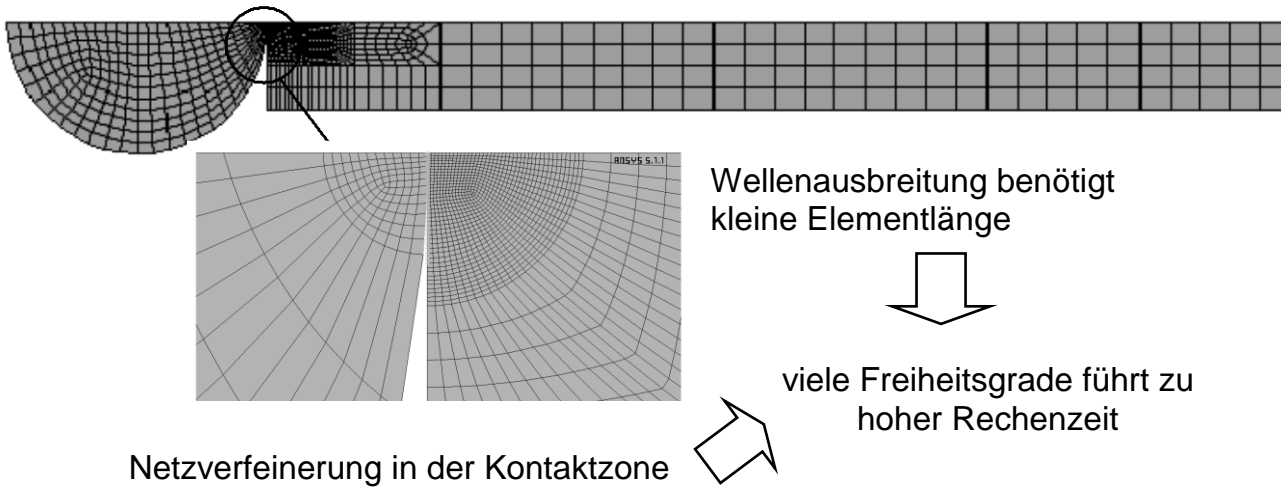
ρ : Dichte

[Wave Motion in Elastic Solids, Graff, 1975]





Modellierung von Stoßproblemen mit nichtlinearer FEM



Vergleich von Messung und Simulation

