High magnetic field generation XXX?

Roald Frederickx Kasper Meerts

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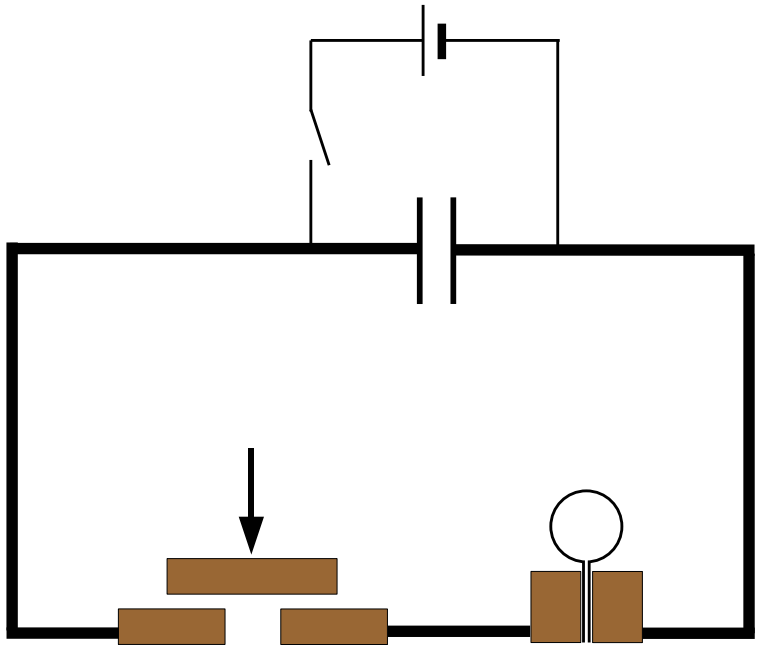
Titularis: Prof. Dr. Christian Van Haesendonck
Begeleider: XXXXXX Dr. Johan Vanacken

- Vaste-stoffysica
- Materiaaleigenschappen
- Methodes

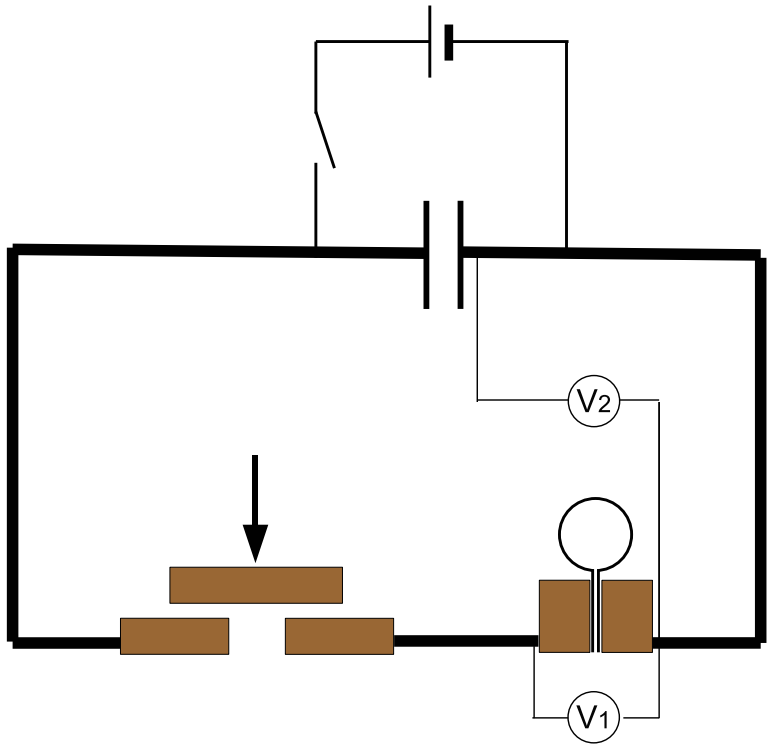
Methode	Veld (T)
Permanente magneet	1.3
Gewone electromagneet	36
Hybride electromagneet	45
Gepulst (niet-destructief)	89
Single Turn Coil	400
Explosief	2800

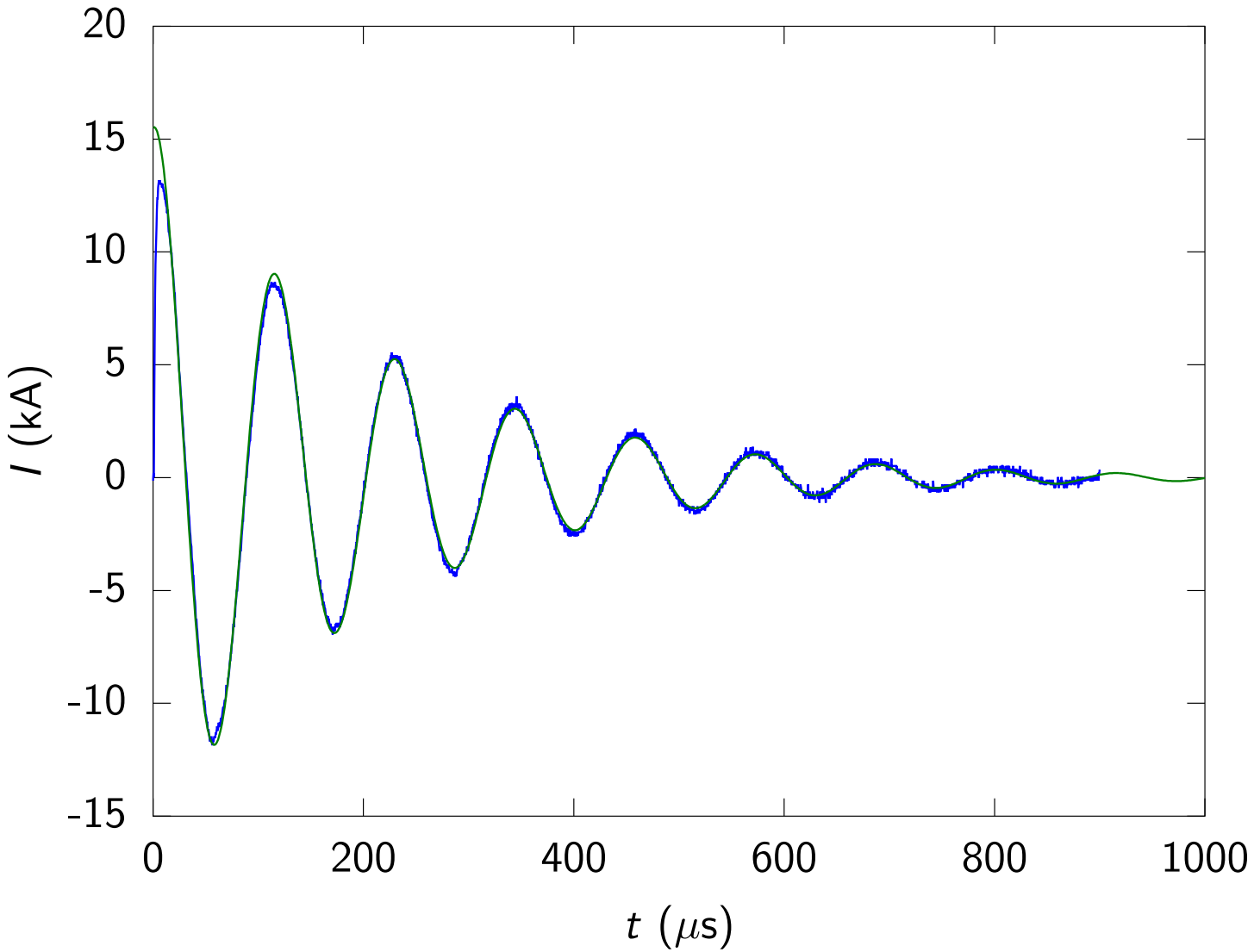
- Mobiel apparaat
- Kleine schaal
- Proof of concept
- $\sim$ 2 tesla
- 400 μF
- 850 V
- 150 J



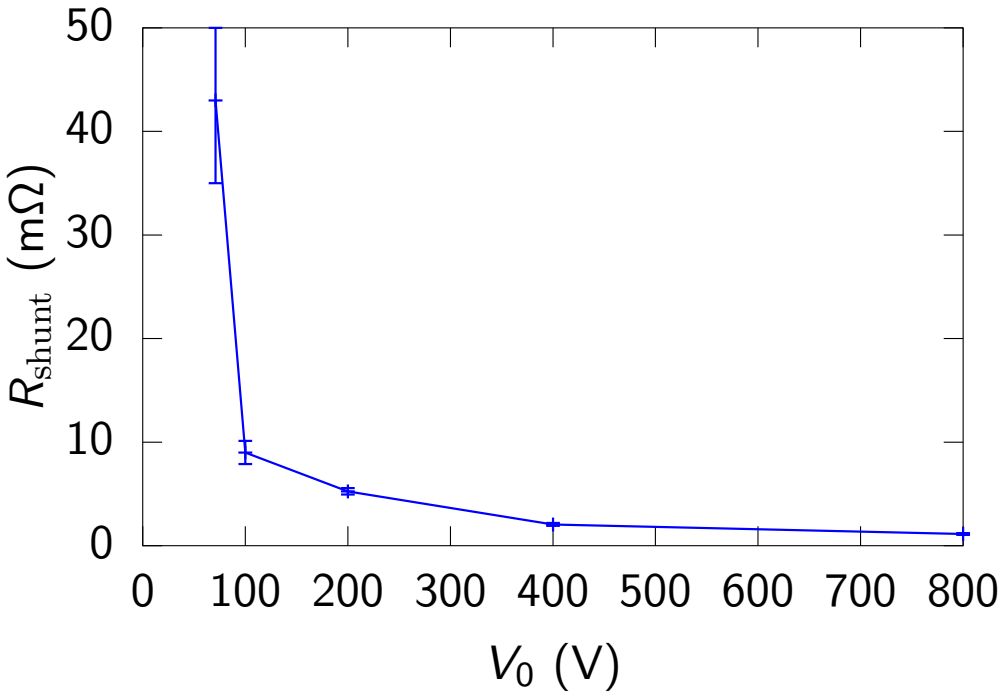
- Oorspronkelijk
  - $\mathrm{d}B/\mathrm{d}t$ pickup-spoel

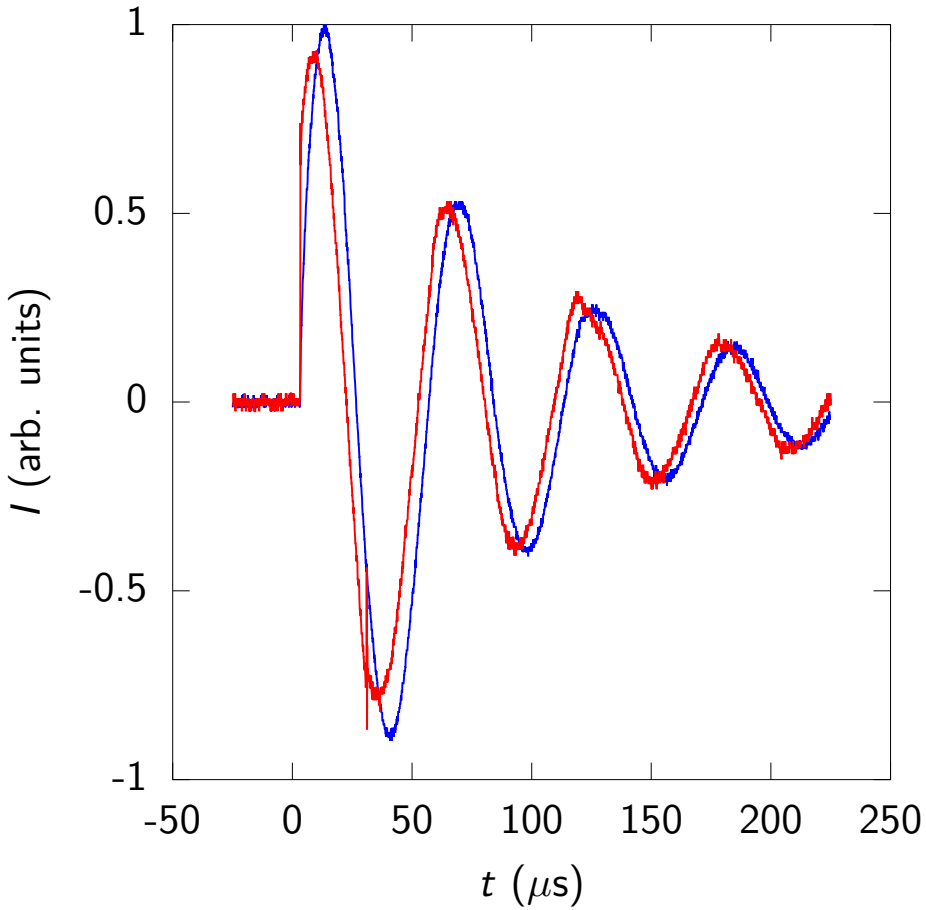
  $\rightarrow$ Nieuw: $136\,\mathrm{mm}^2$
- Onze toevoegingen
  - Spanning over spoel
  - Stroom (door shunt)

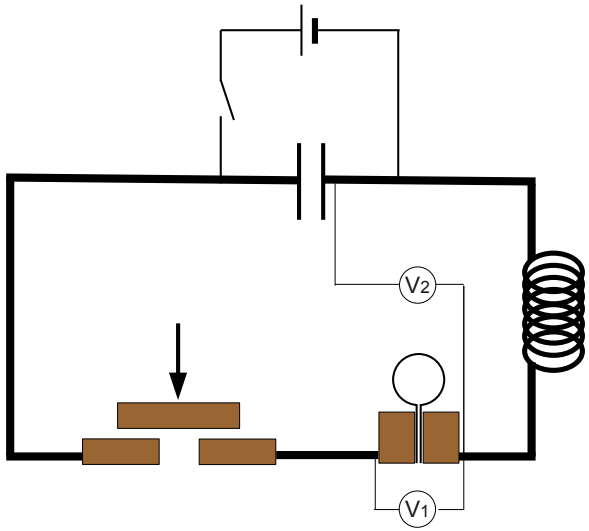



20
15
10
5
0
-5
-10
-15
0
200
400
600
800
1000
I (kA)
t (μs)

$V_0(\mathrm{V})$	$L(\mu\mathrm{H})$	$R(\mathrm{m}\Omega)$	$R_{\mathrm{shunt}}(\mathrm{m}\Omega)$
71	0.83 ± 0.06	12 ± 3	43 ± 8
100	0.84 ± 0.03	9 ± 1	9 ± 1
200	0.82 ± 0.01	8.3 ± 0.6	5.3 ± 0.3
400	0.82 ± 0.01	7.1 ± 0.6	2.0 ± 0.1
800	0.82 ± 0.01	7.7 ± 0.7	1.12 ± 0.09




1
0.5
0
-0.5
-1
-50
0
50
100
150
200
250
I (arb. units)
t (μs)


V2
V1