



Internship at S'Cool Lab

German Internship Programme at CERN 2015

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S'Cool
LAB



Overview about our Tasks

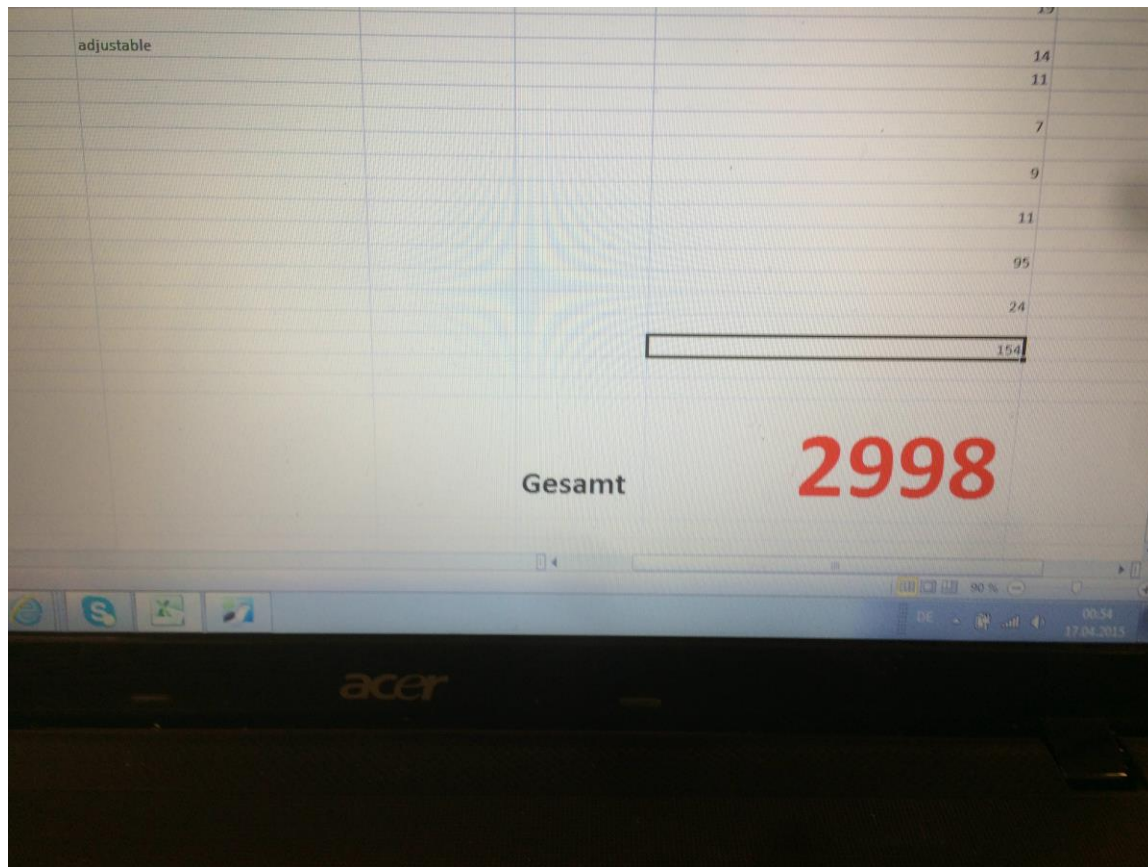
- Inventory
- Workshops in the S'Cool Lab
- Mach-Zehnder-Interferometer
- Outreach

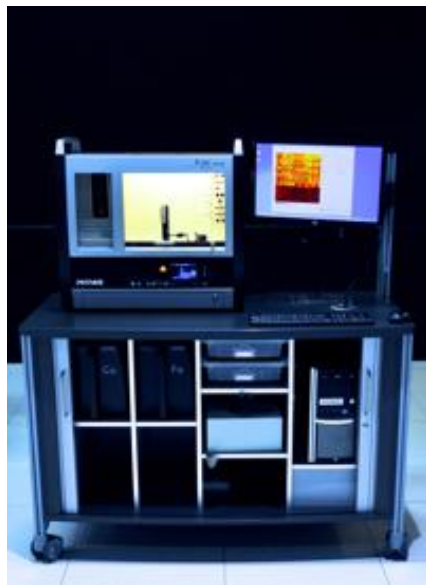


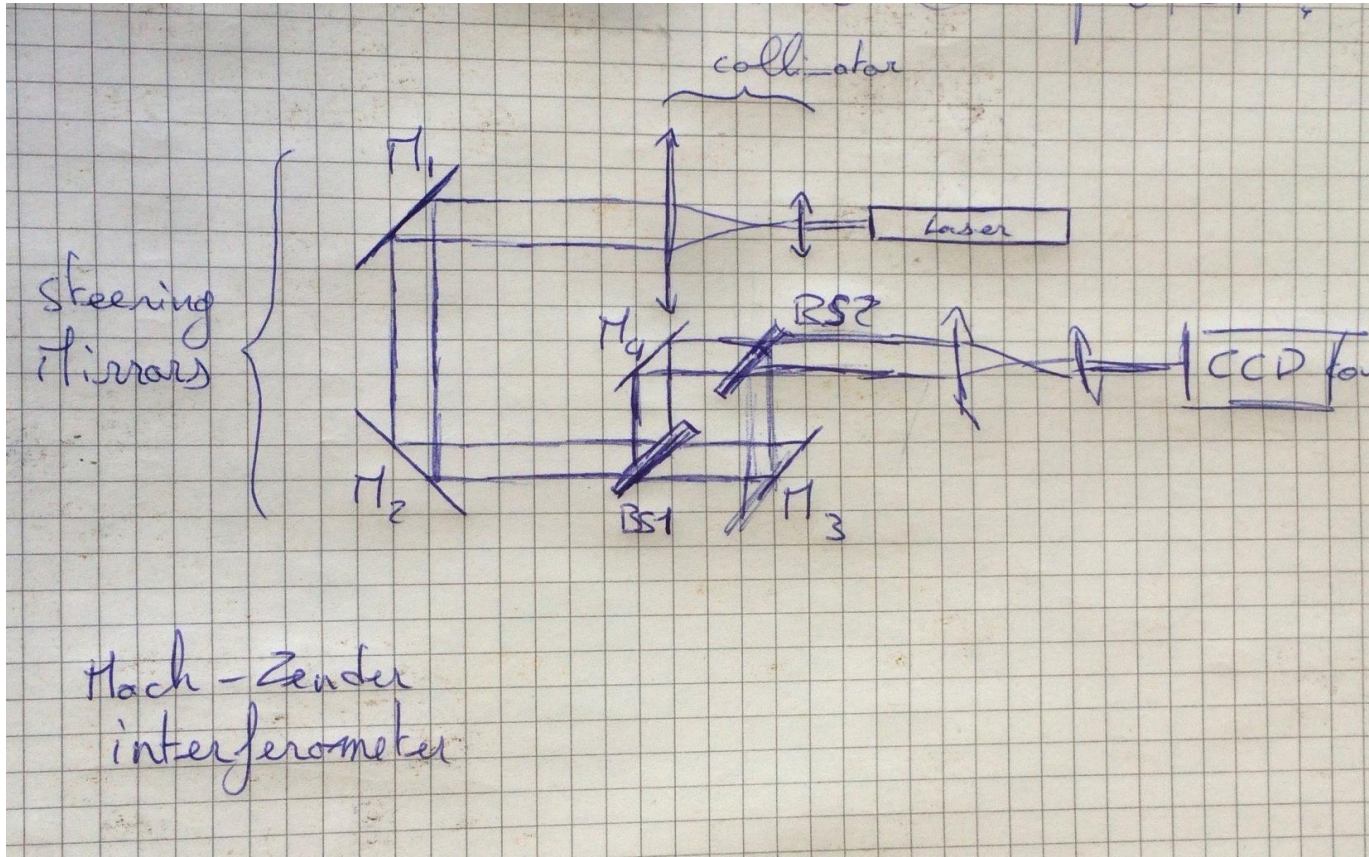








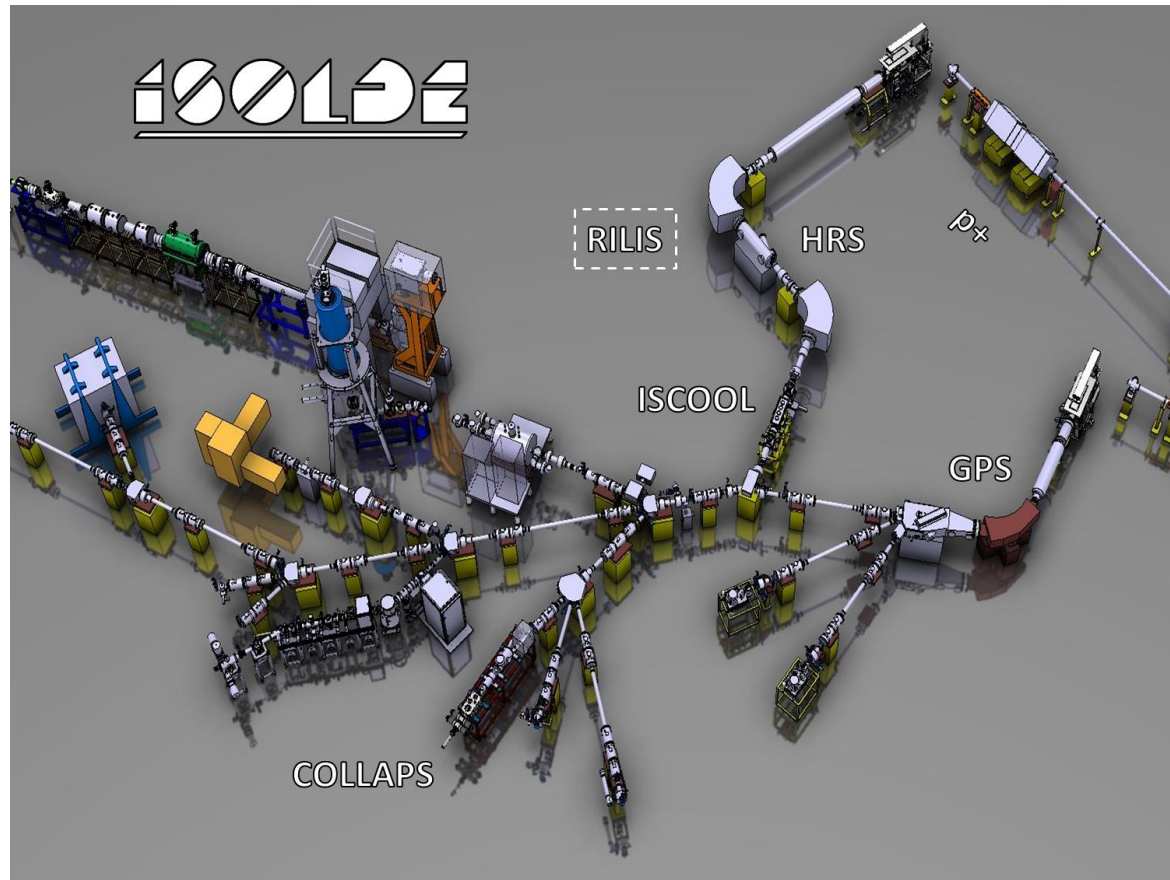




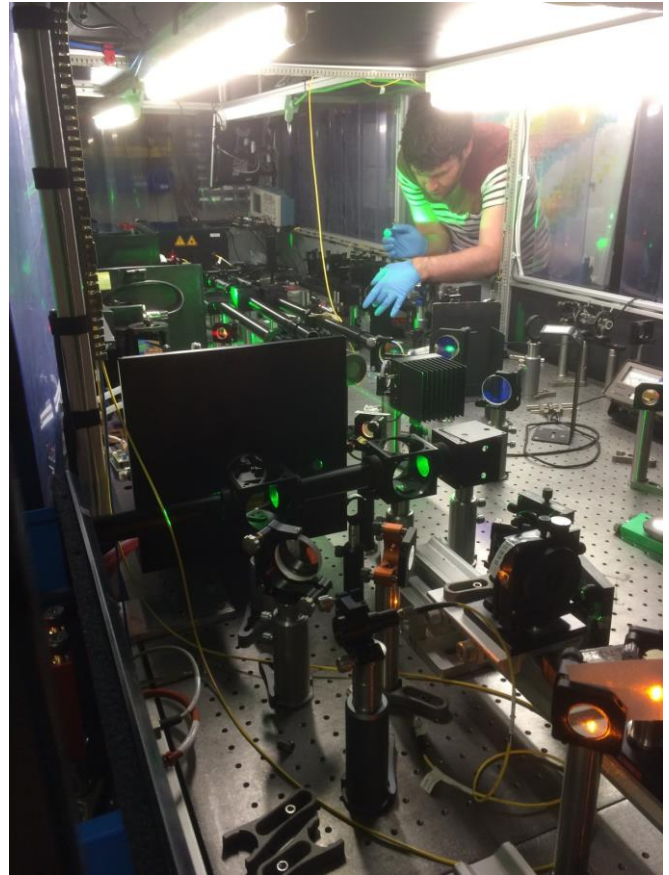
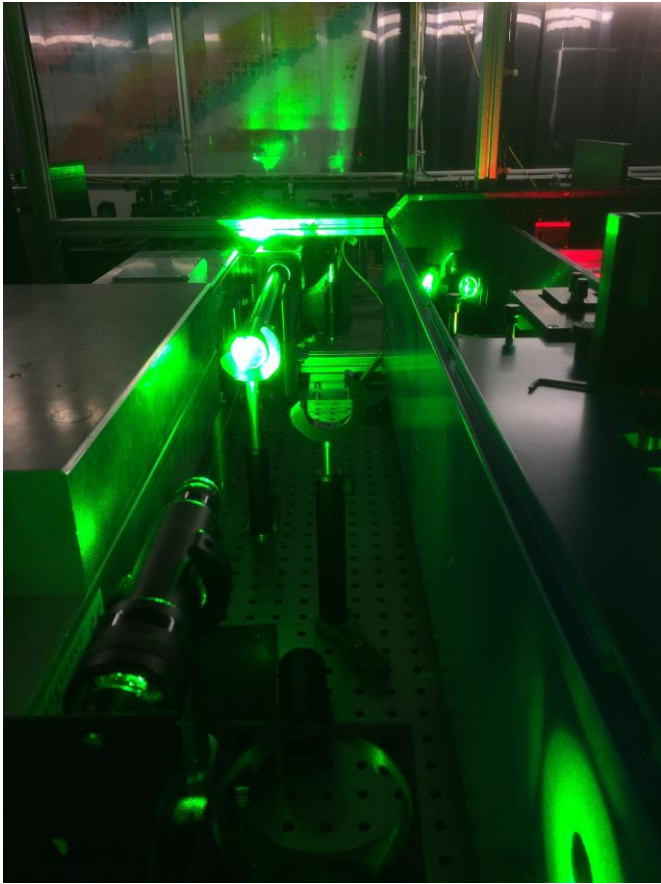


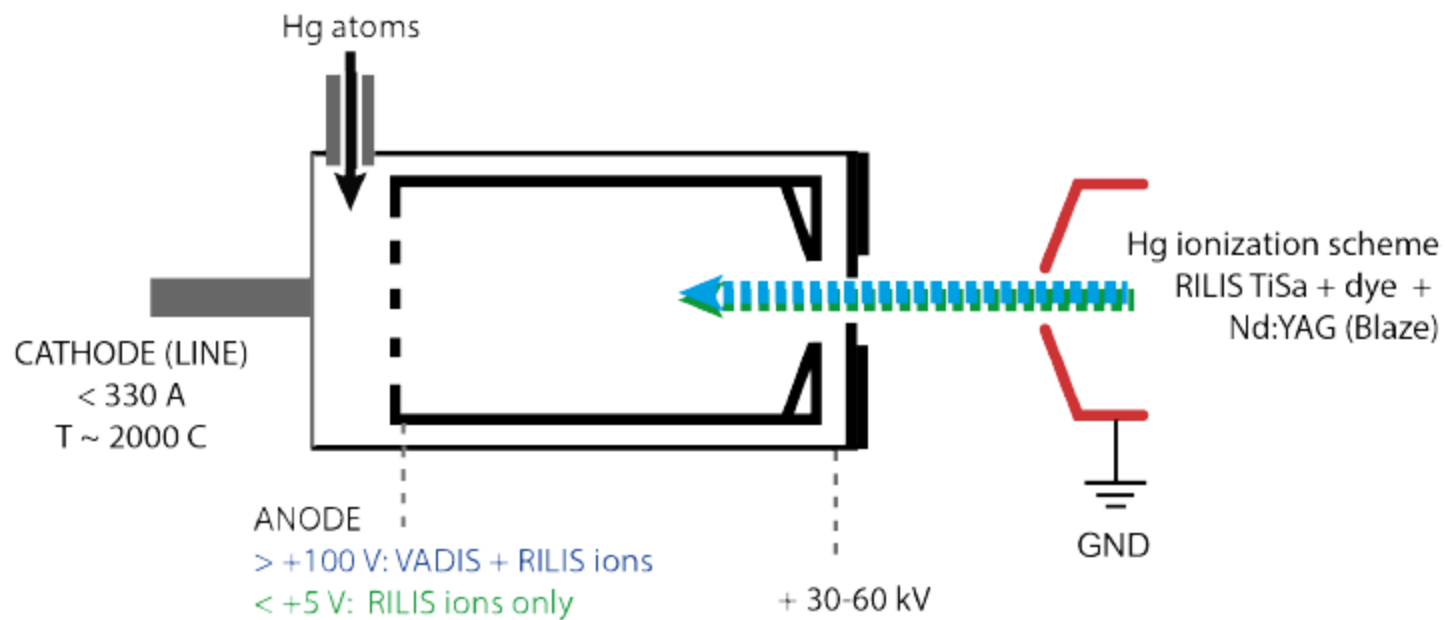
150 LPE

ISOLDE









Thanks to Sascha Schmeling,
Alexander Brown, Matthieu
Veinhard and the S'Cool Lab
Team !

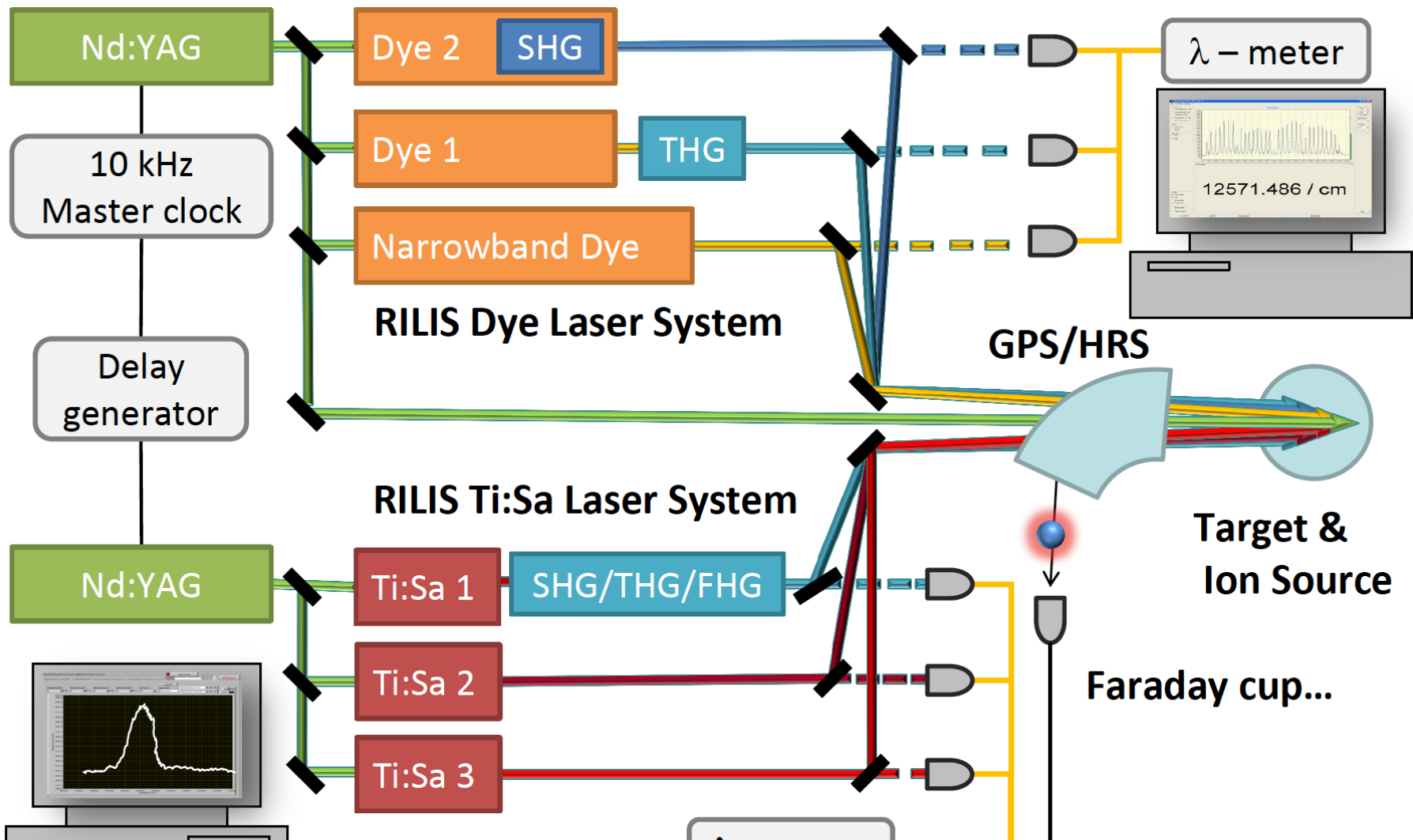


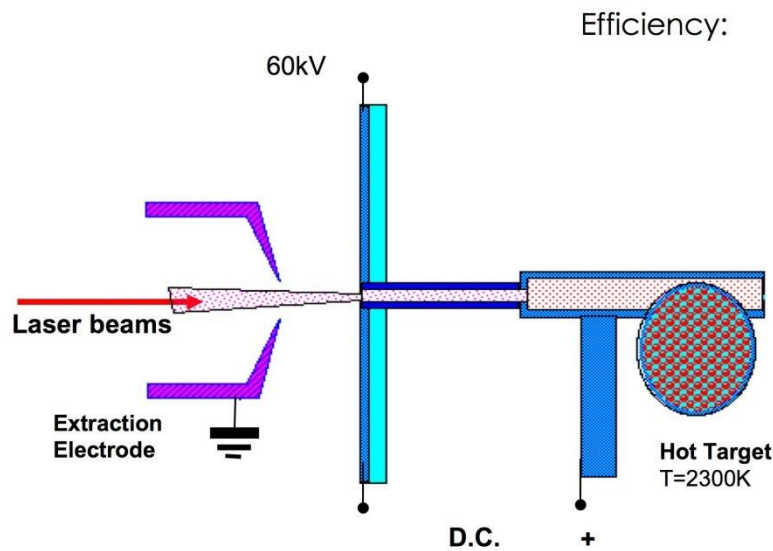
www.cern.ch

Sources

- https://www.google.ch/url?sa=i&rct=j&q=&esrc=s&source=images&cd=&ved=0CAcQjRw&url=http%3A%2F%2Fwww.youtube.com%2Fwatch%3Fv%3DtSqcXTdO43Q&ei=IXQ5VeyGLYbVPNG0gegD&bvm=bv.91427555,d.d2s&psig=AFQjCNE_ggIHLO2AyRNkaUBHEvLp9kqW3A&ust=1429913626569875
- https://www.google.ch/url?sa=i&rct=j&q=&esrc=s&source=images&cd=&cad=rja&uact=8&ved=0CAcQjRw&url=https%3A%2F%2Ftwitter.com%2Fwenndanngsheit%2Fstatus%2F459446329023168512&ei=CXU5VcLmMsrVPc3rgOAF&bvm=bv.91427555,d.d2s&psig=AFQjCNE_ggIHLO2AyRNkaUBHEvLp9kqW3A&ust=1429913626569875
- <https://de.wikipedia.org/wiki/ISOLDE>
- <http://scool.web.cern.ch>
- <http://isolde.web.cern.ch>

Backup





Efficiency:

$$\epsilon = \frac{P_{\text{ionisation}}}{P_{\text{ionisation}} + P_{\text{Effusion}}}$$

$$\epsilon = \frac{v_{\text{rep}} \epsilon_{\text{ion}}}{v_{\text{rep}} \epsilon_{\text{ion}} + \frac{2dv}{3L^2}}$$

$\epsilon_{\text{surface}}$

> 5% - alkalis

$\epsilon_{\text{laser}} = 1\% - 30\%$

$$\text{Selectivity} = \frac{\text{Laser Ionization Efficiency}}{\text{Surface Ionization Efficiency}}$$

=> depends on the ionization potentials of isobar atoms