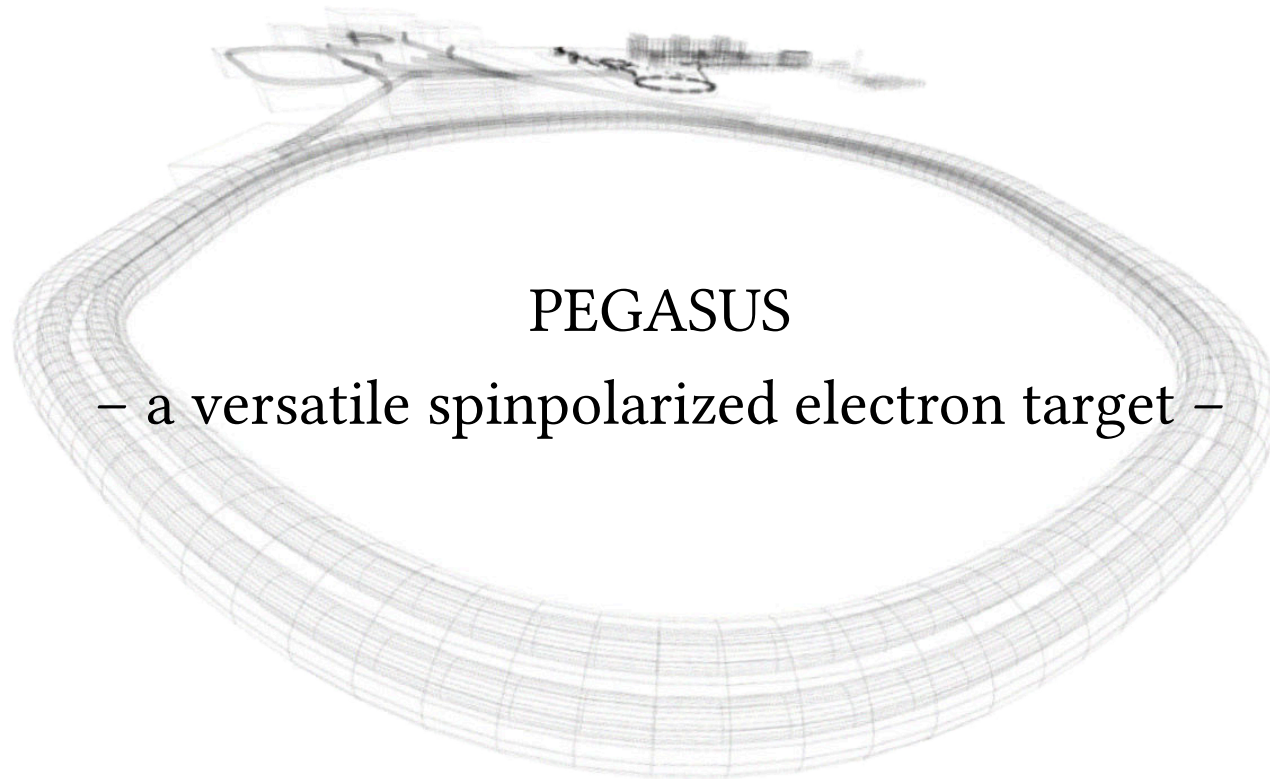
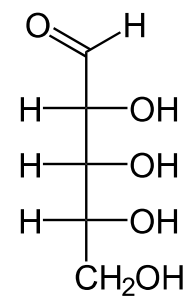
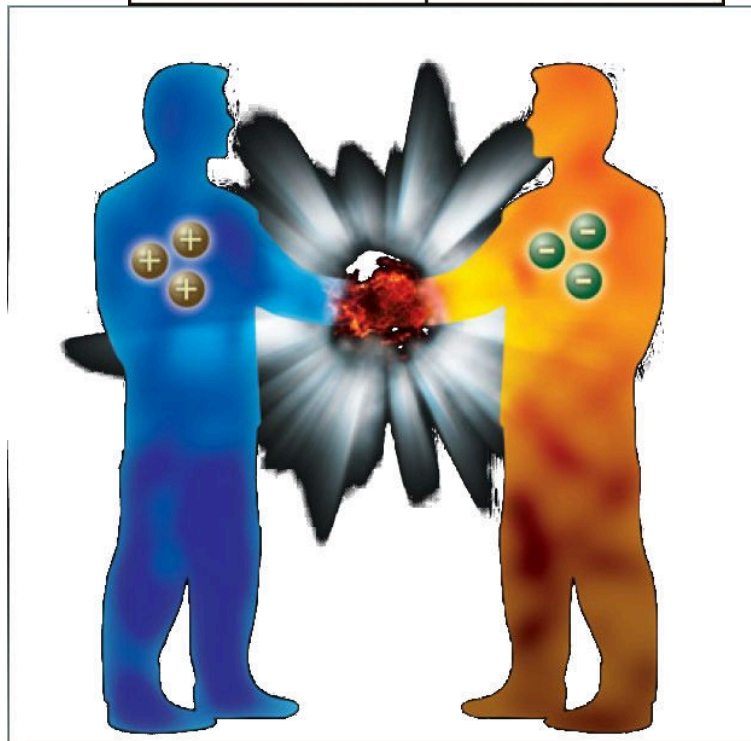
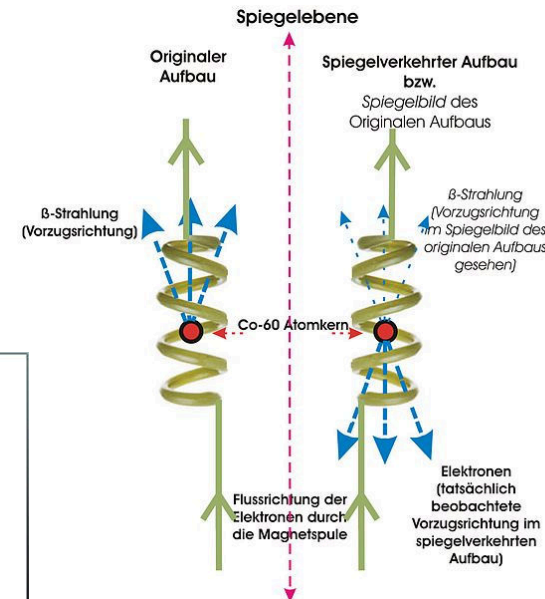
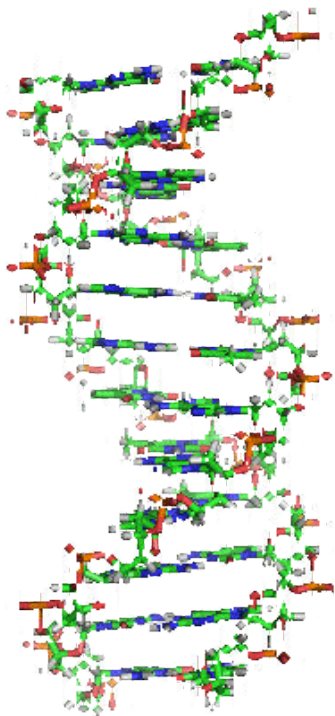




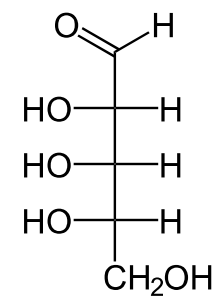
PEGASUS

– a versatile spinpolarized electron target –

Motivation

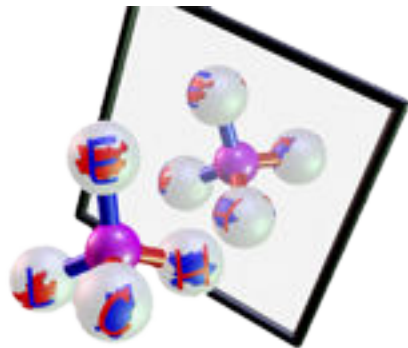


D-Ribose



L-Ribose

ELCH



Electrodynamics of CHiral systems



JUSTUS-LIEBIG-



UNIVERSITÄT
GIESSEN

Philipps



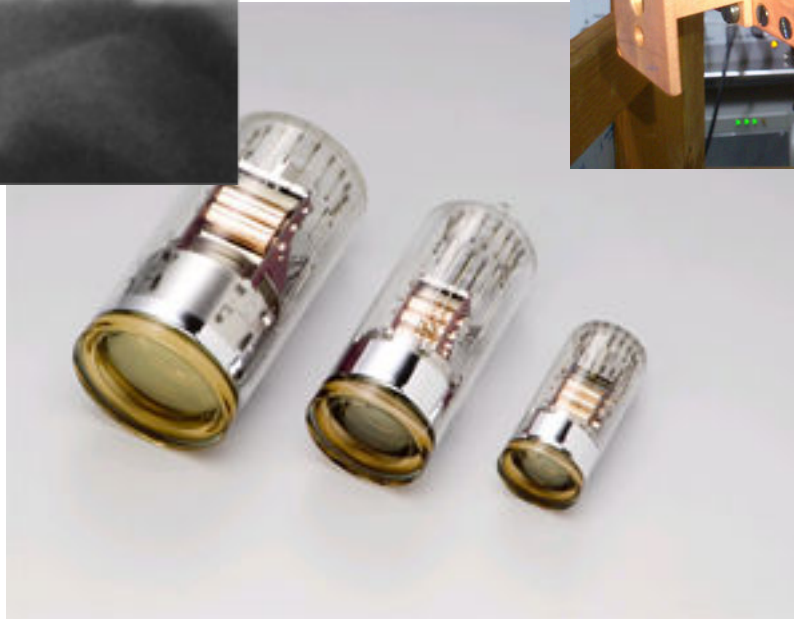
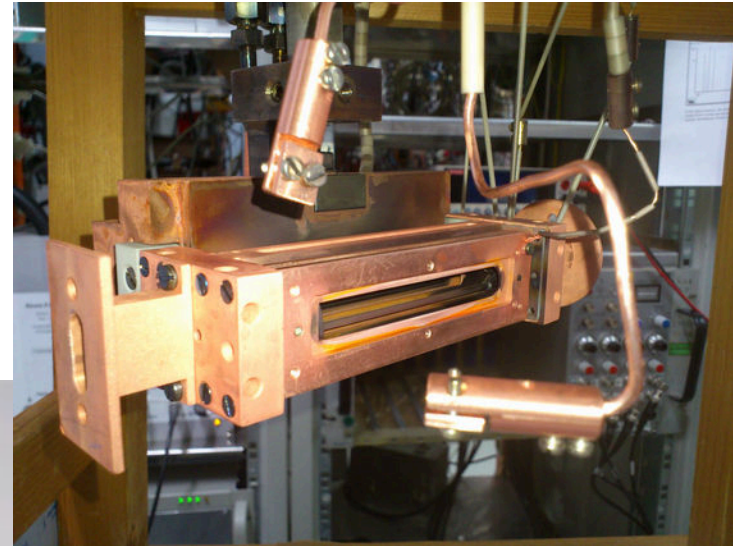
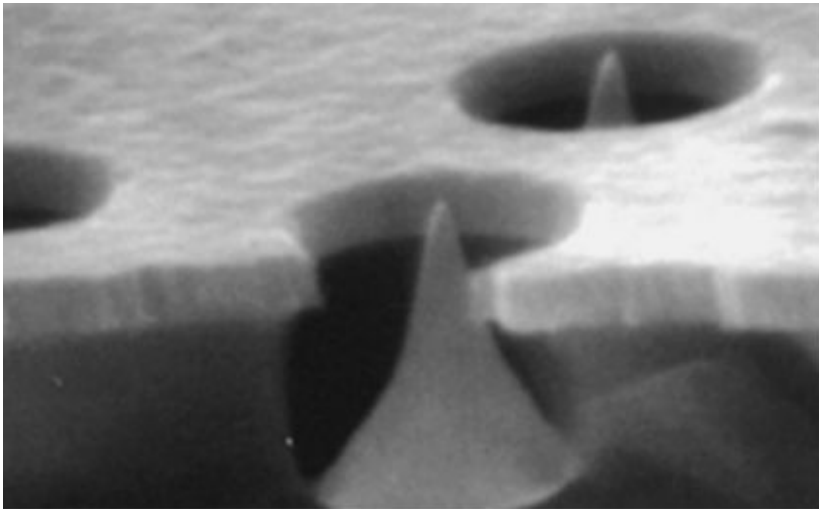
Universität
Marburg

U N I K A S S E L
V E R S I T Ä T

GOETHE
UNIVERSITÄT
FRANKFURT AM MAIN



Sources of electrons



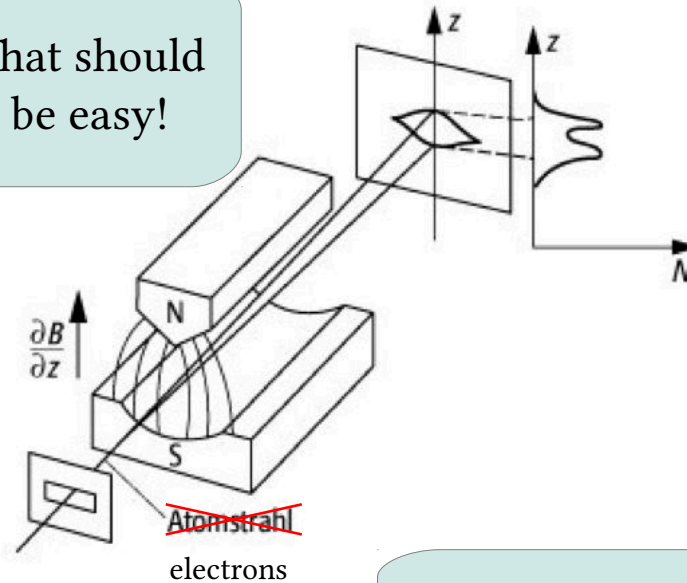
Sources of polarized electrons

– Spin filters –

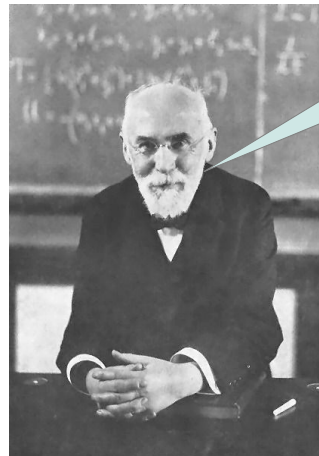
Stern-Gerlach



That should
be easy!



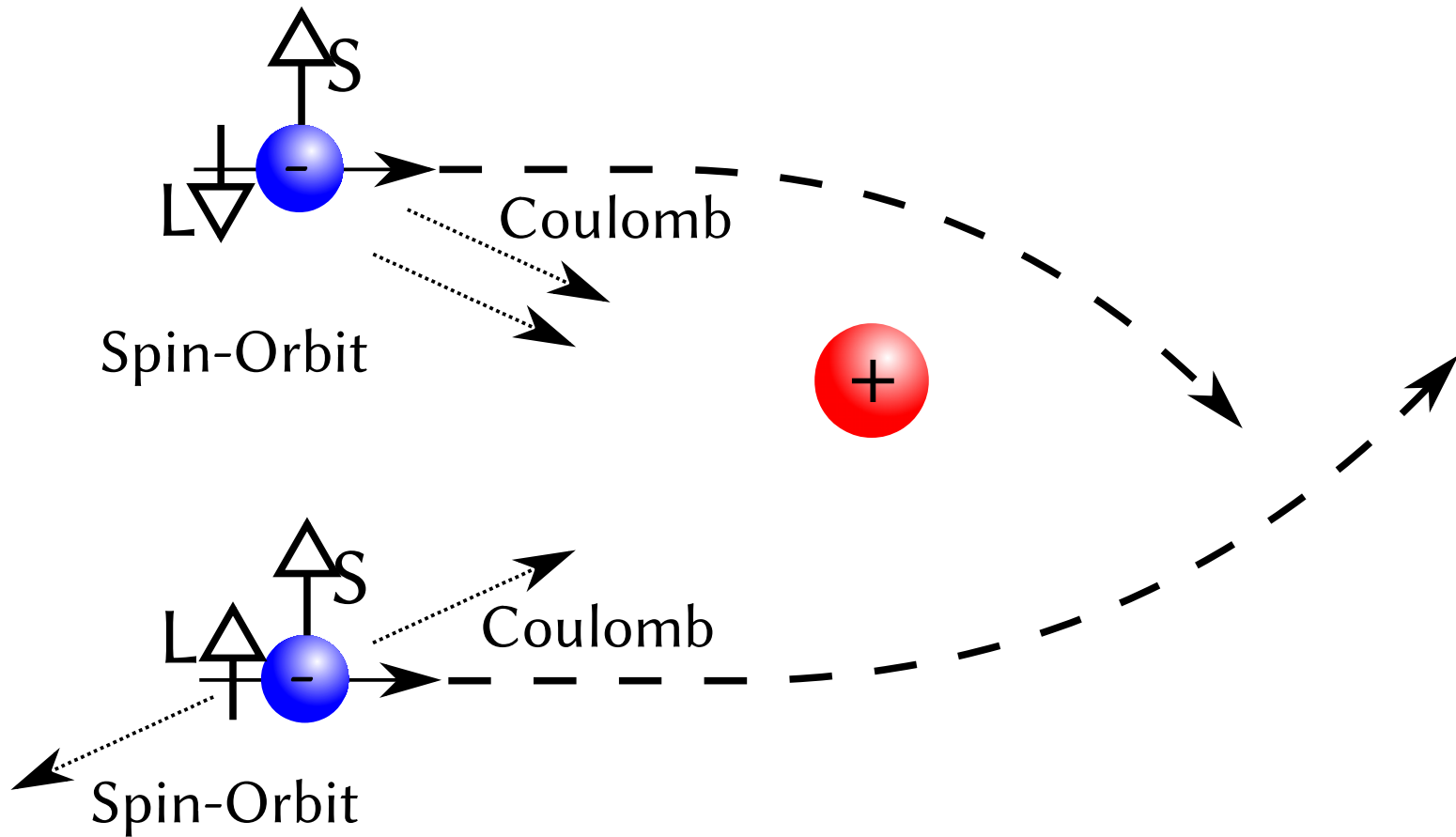
Particle charge!



Sources of polarized electrons

– Spin filters –

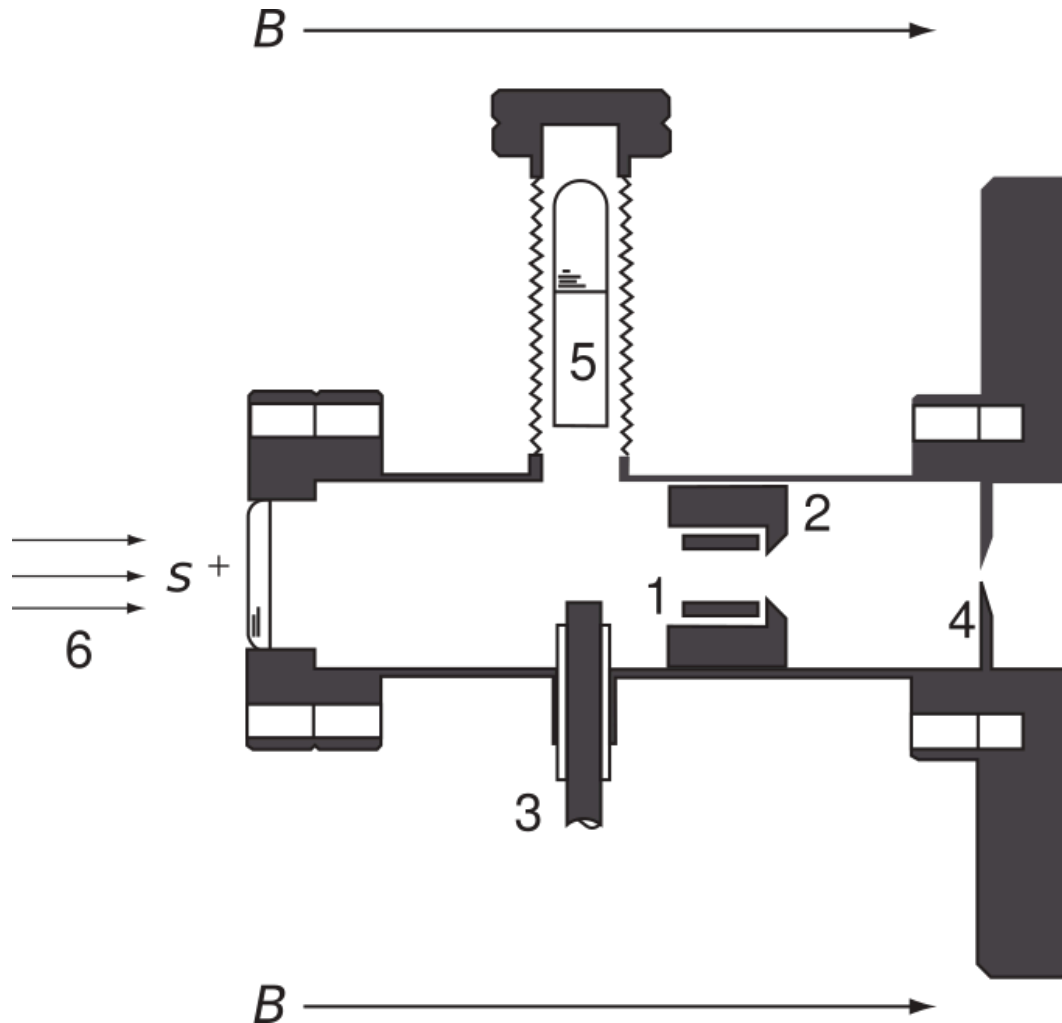
Atomic Scattering



Sources of polarized electrons

– Spin filters –

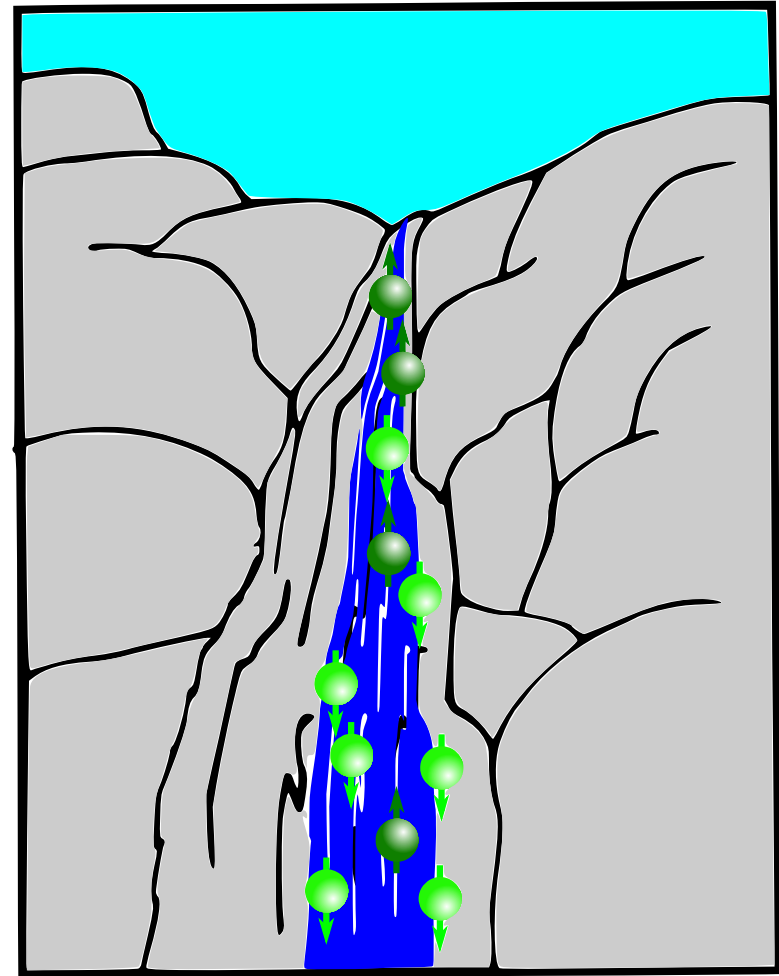
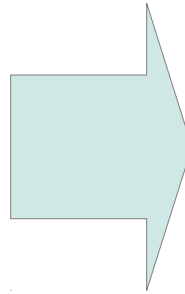
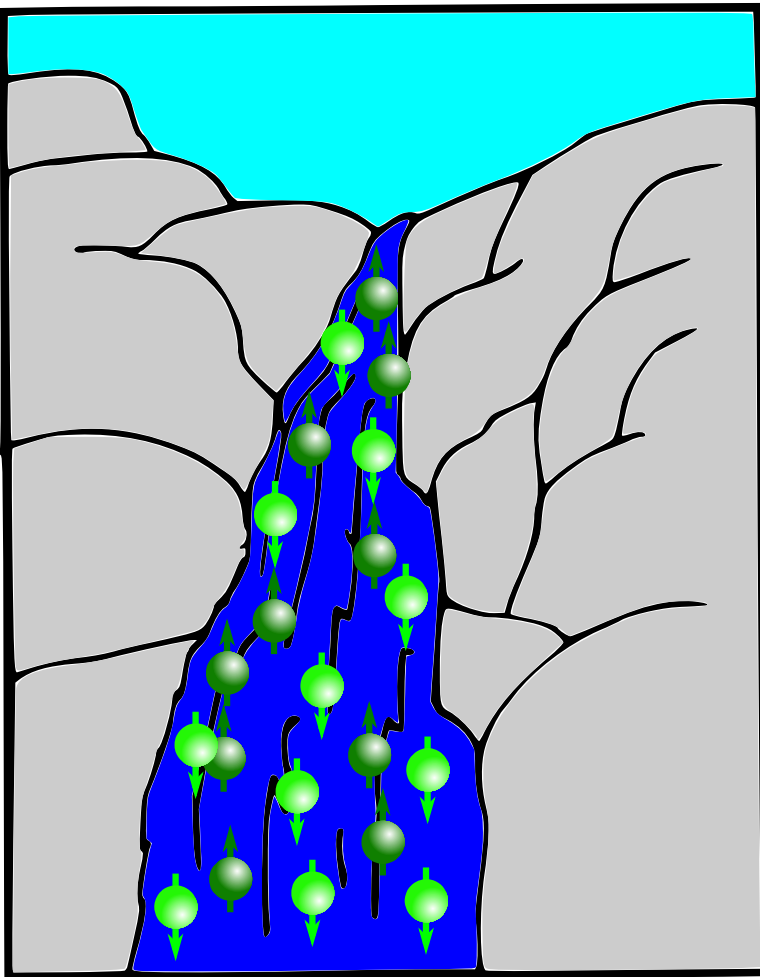
Spin Exchange Scattering



Sources of polarized electrons

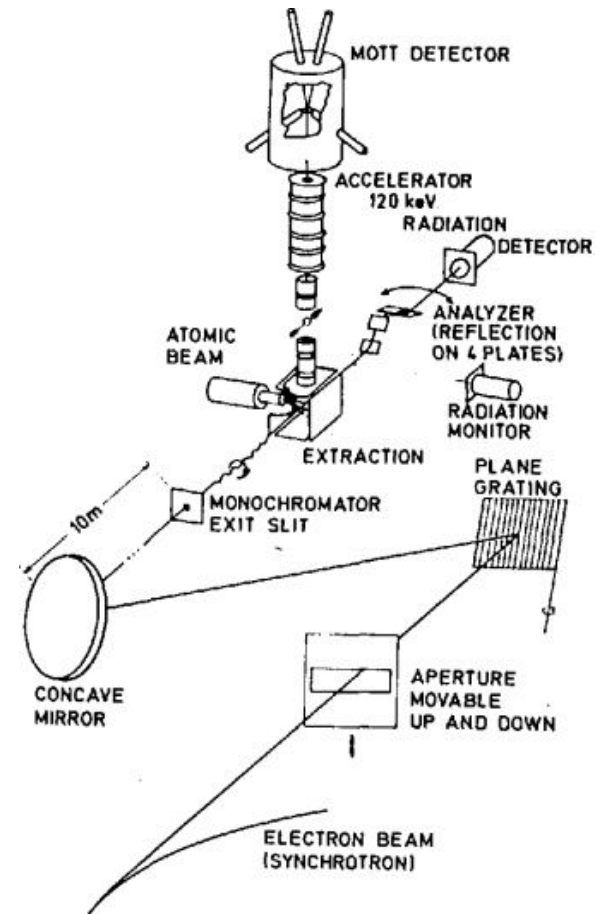
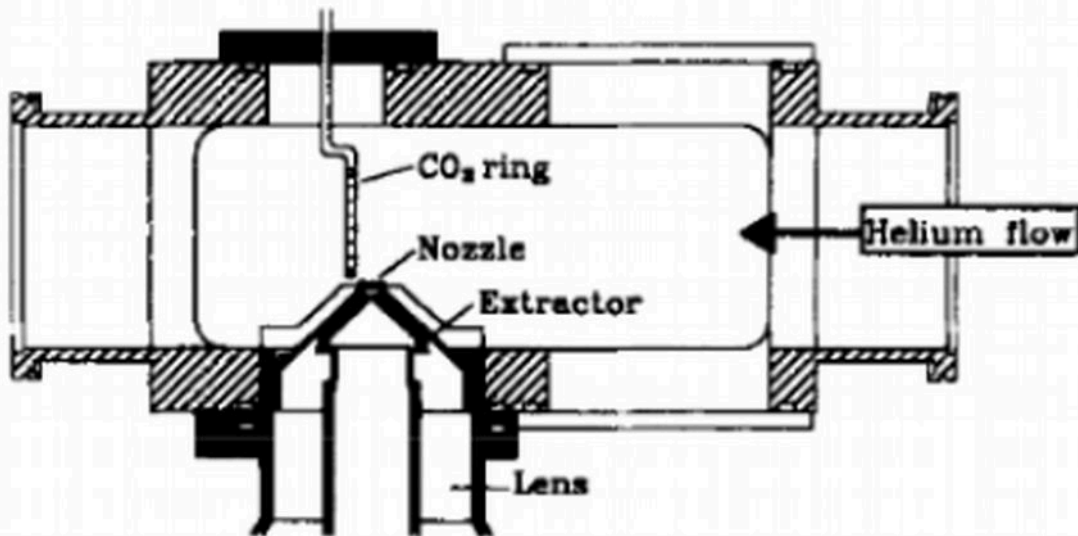
– Spin filters –

Problems

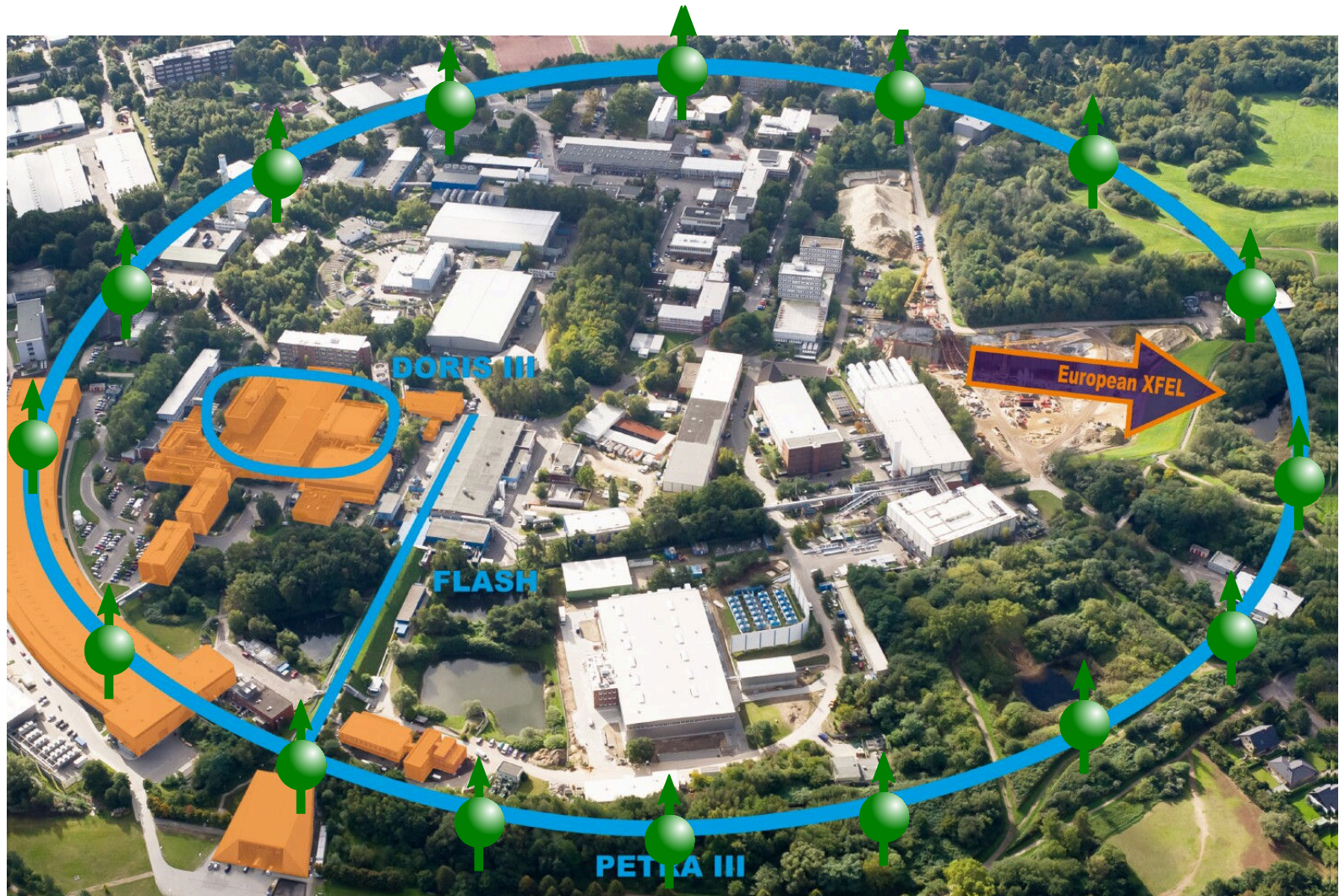


Sources of polarized electrons

– Ion Sources –

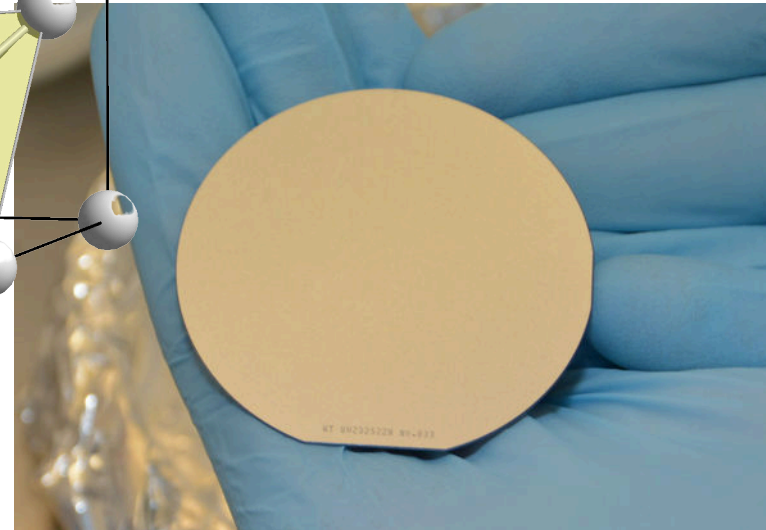
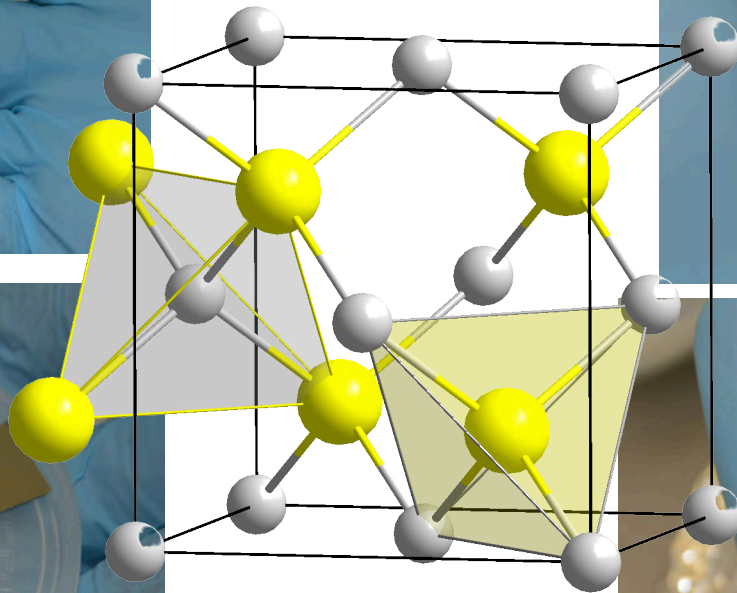
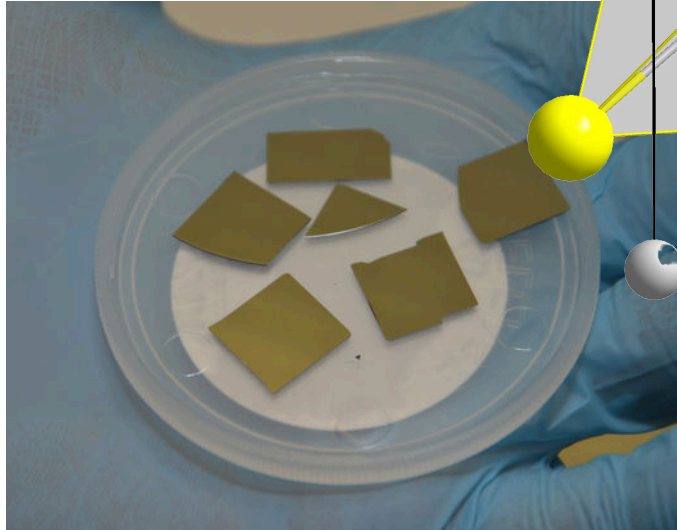
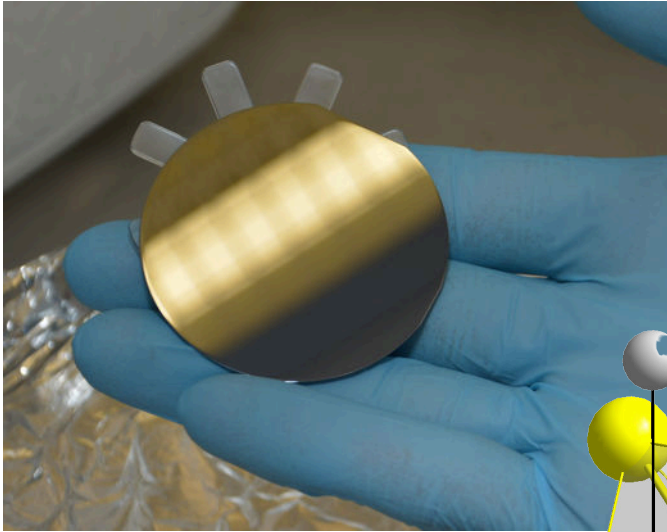


Sources of polarized electrons – Storage Rings –



Sources of polarized electrons

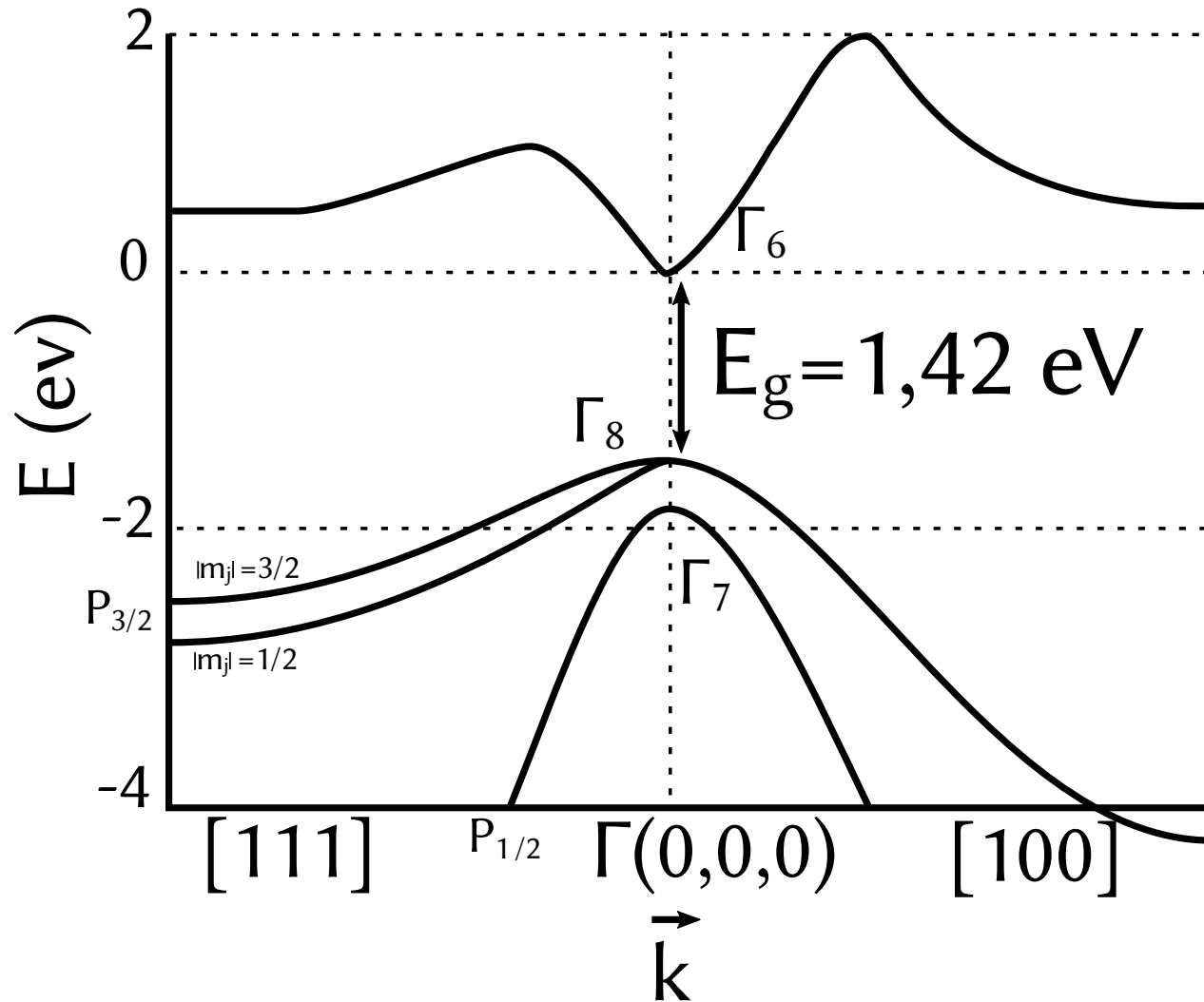
– Photoeffect in GaAs –



Sources of polarized electrons

– Photoeffect in GaAs –

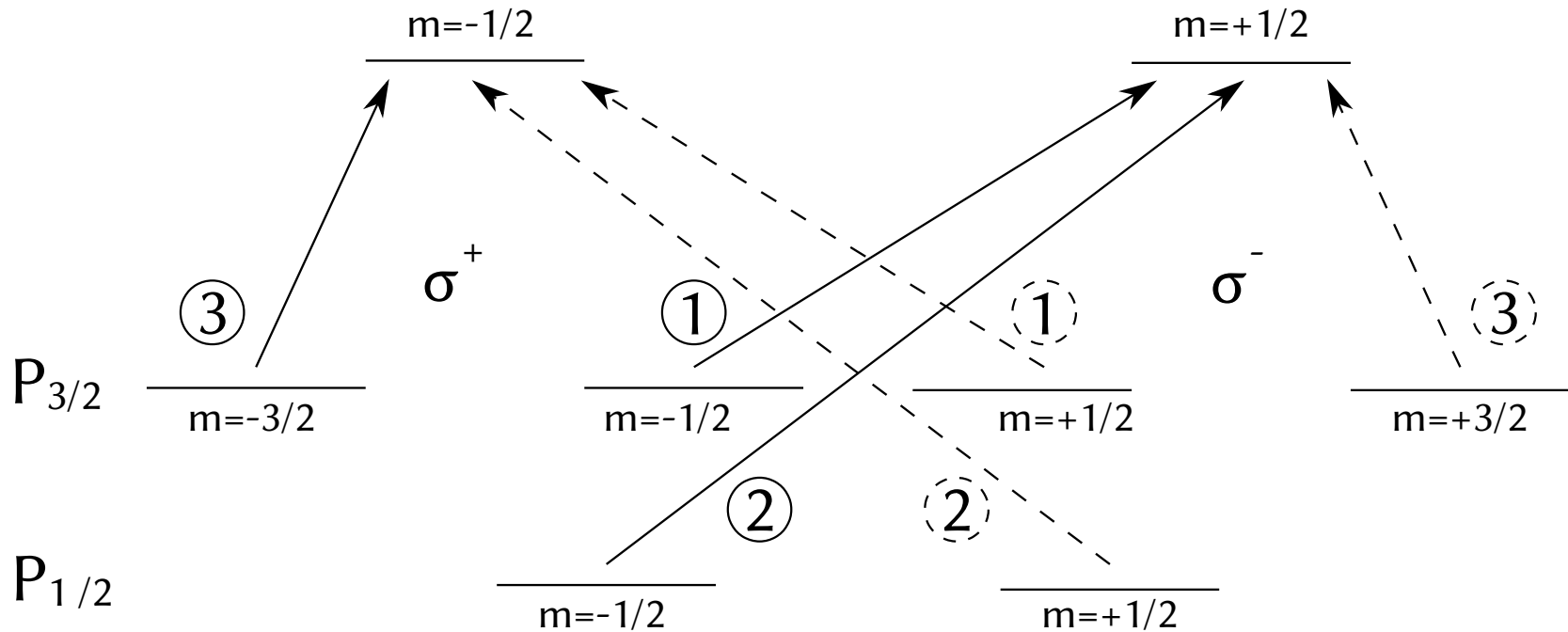
Band Structure



Sources of polarized electrons

– Photoeffect in GaAs –

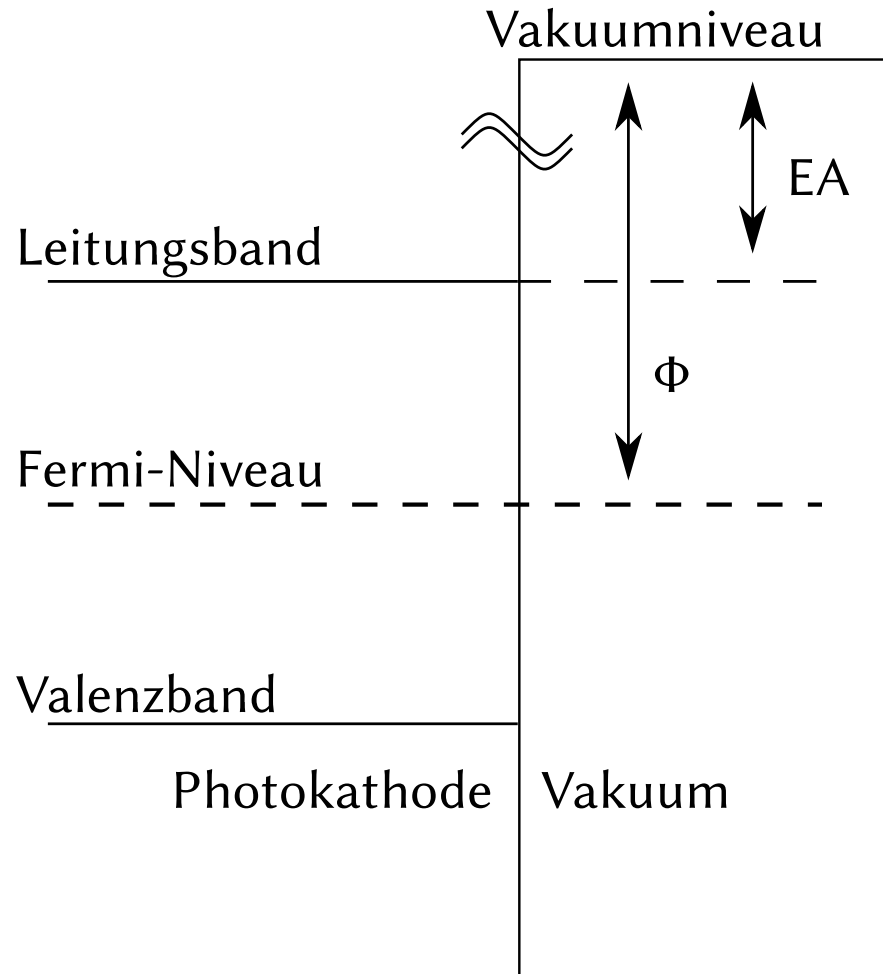
Energy Levels



Sources of polarized electrons

– Photoeffect in GaAs –

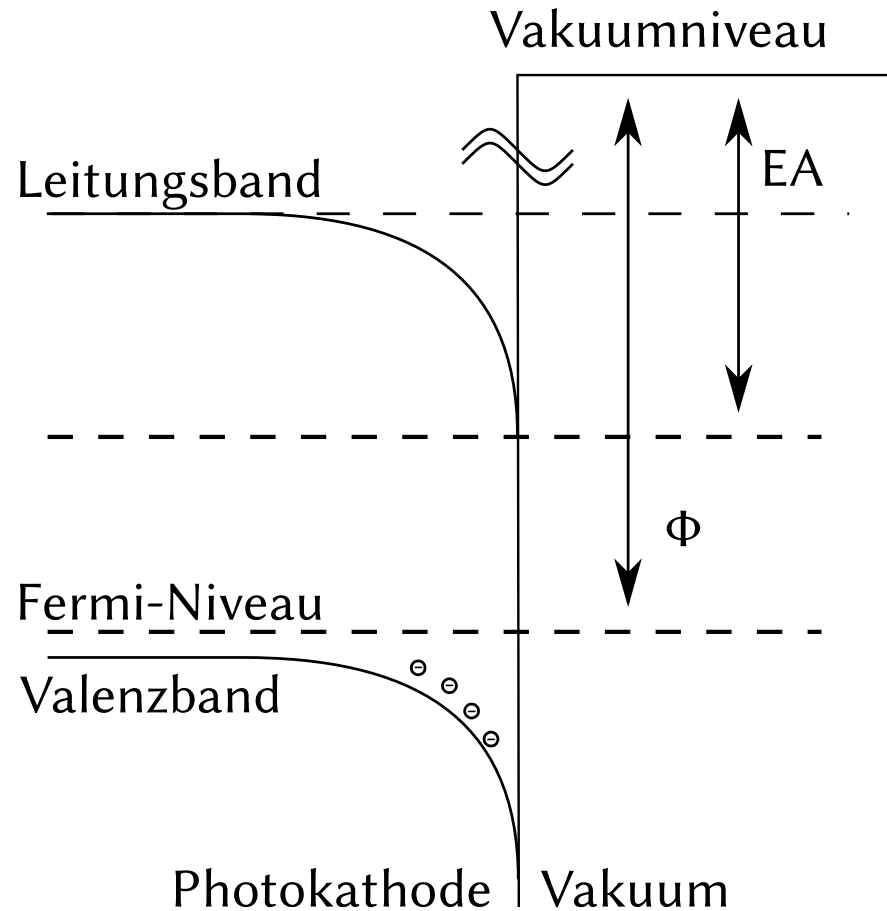
Negative Electron Affinity



Sources of polarized electrons

– Photoeffect in GaAs –

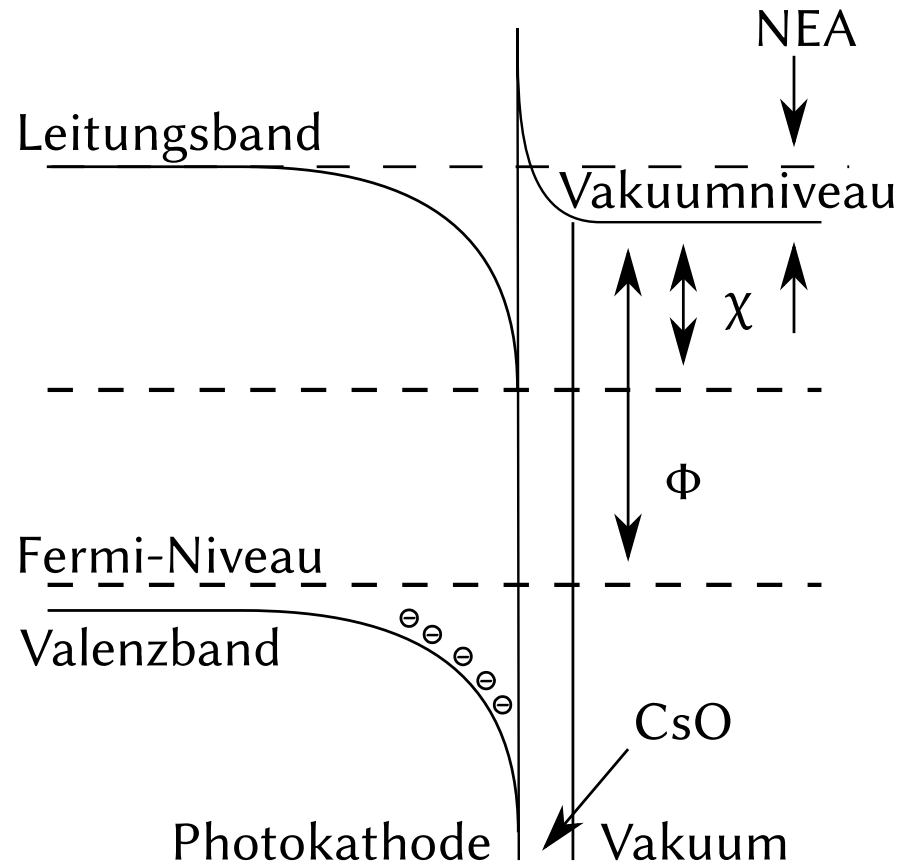
Negative Electron Affinity



Sources of polarized electrons

– Photoeffect in GaAs –

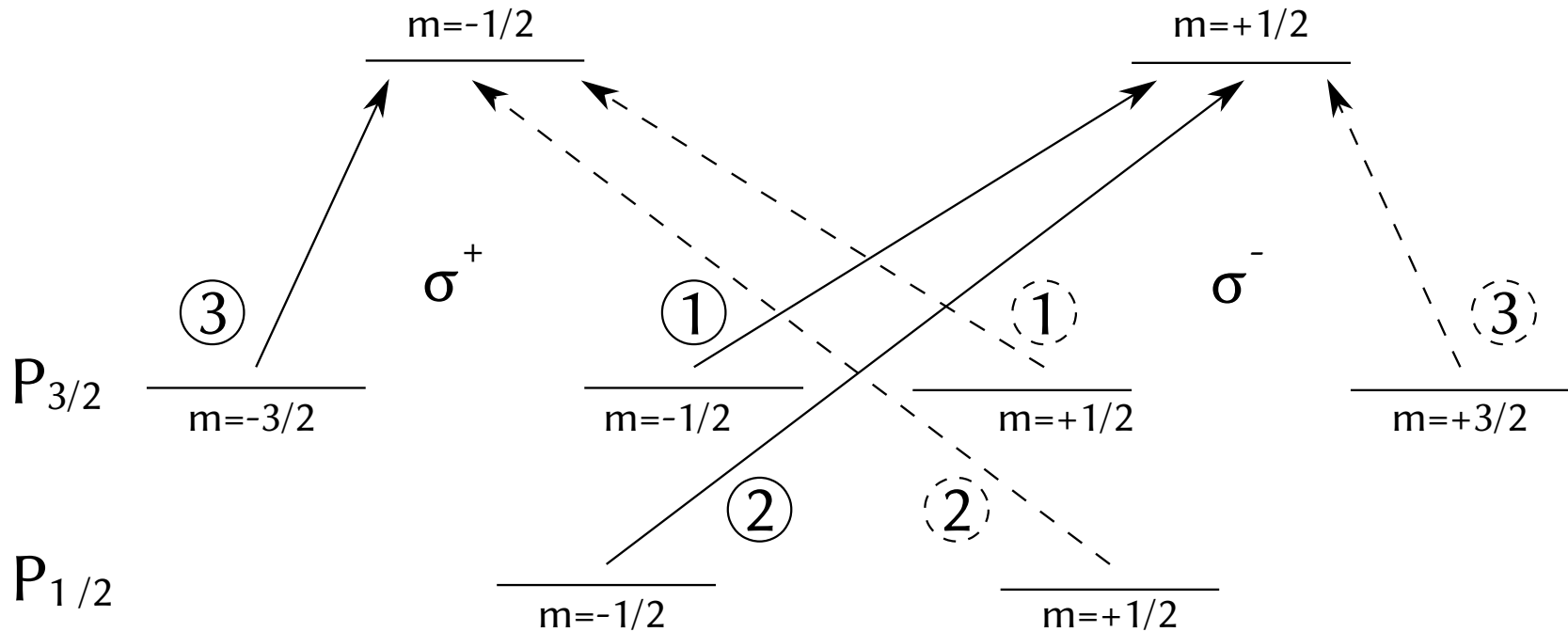
Negative Electron Affinity



Sources of polarized electrons

– Photoeffect in GaAs –

Energy Levels

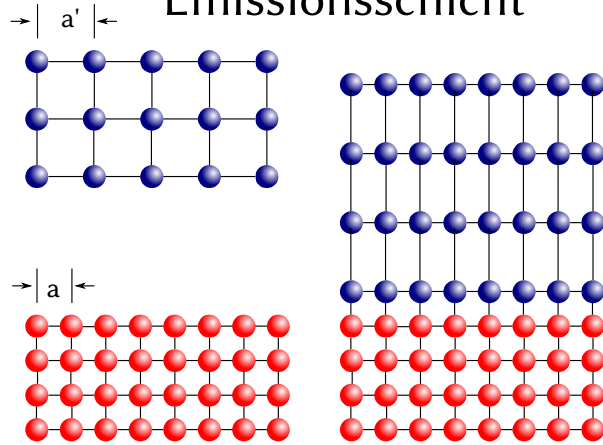


Sources of polarized electrons

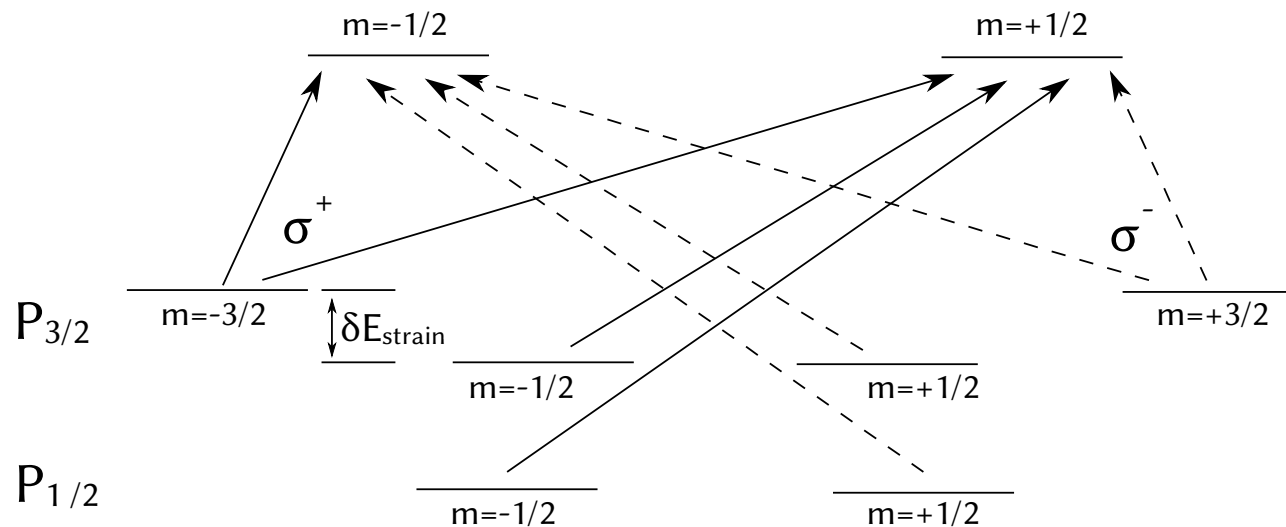
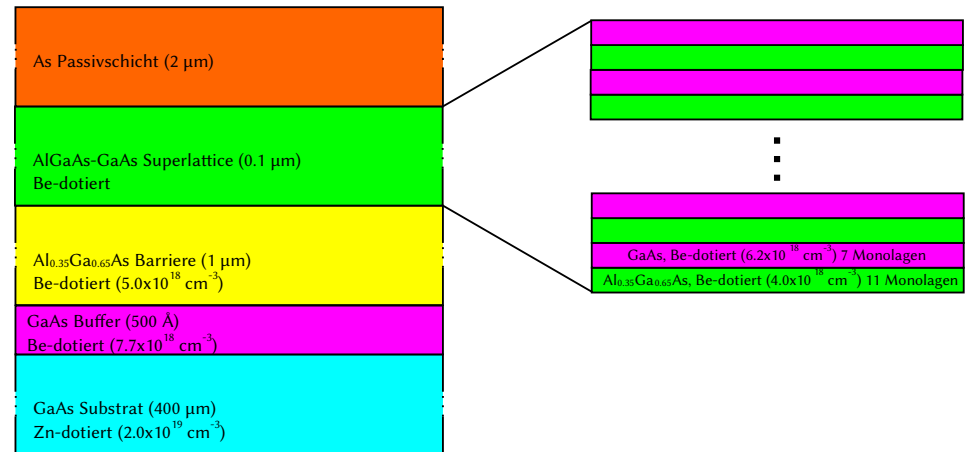
– Photoeffect in GaAs –

Advanced Cathode Types

Emissionsschicht

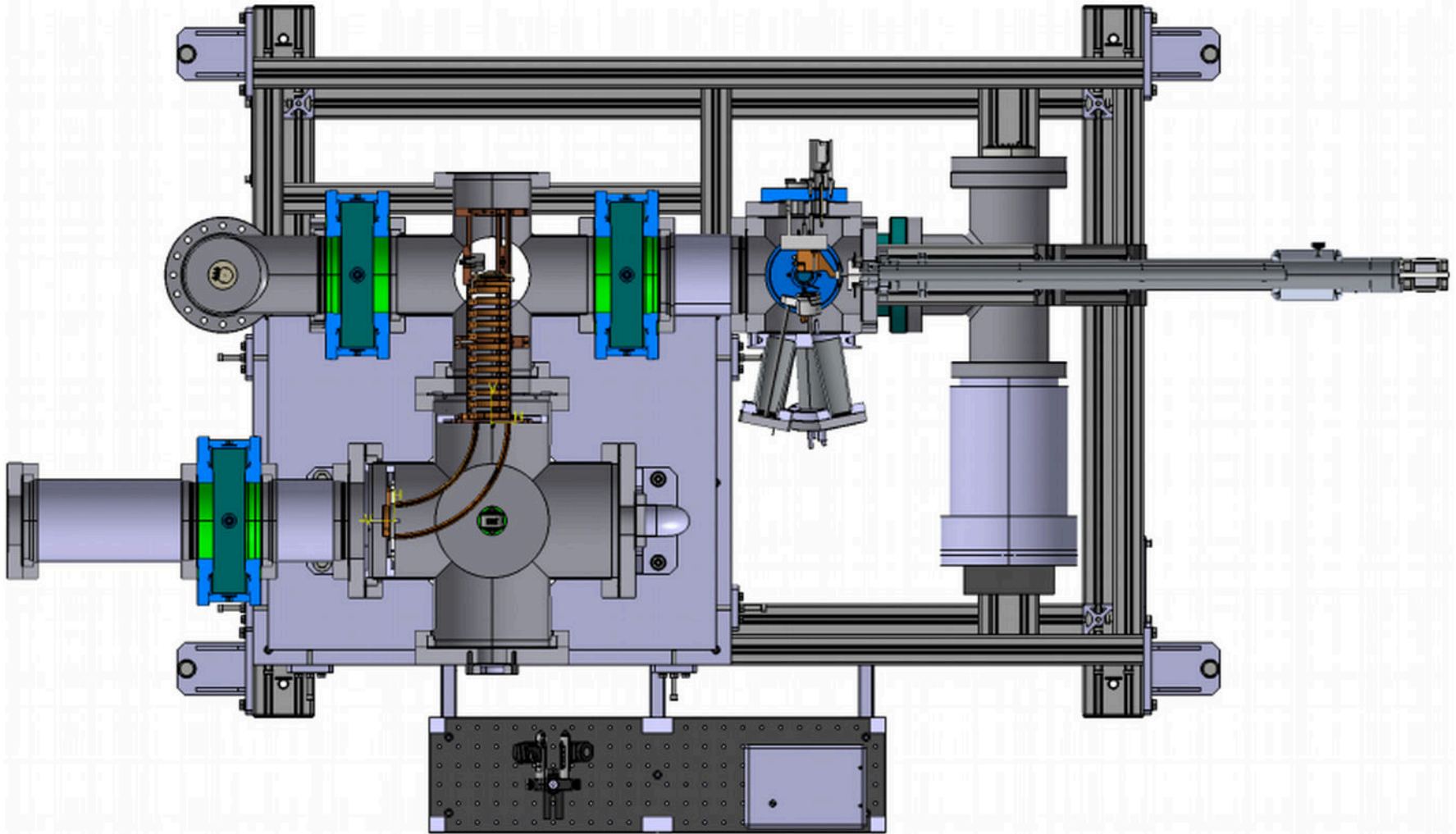


Substrat



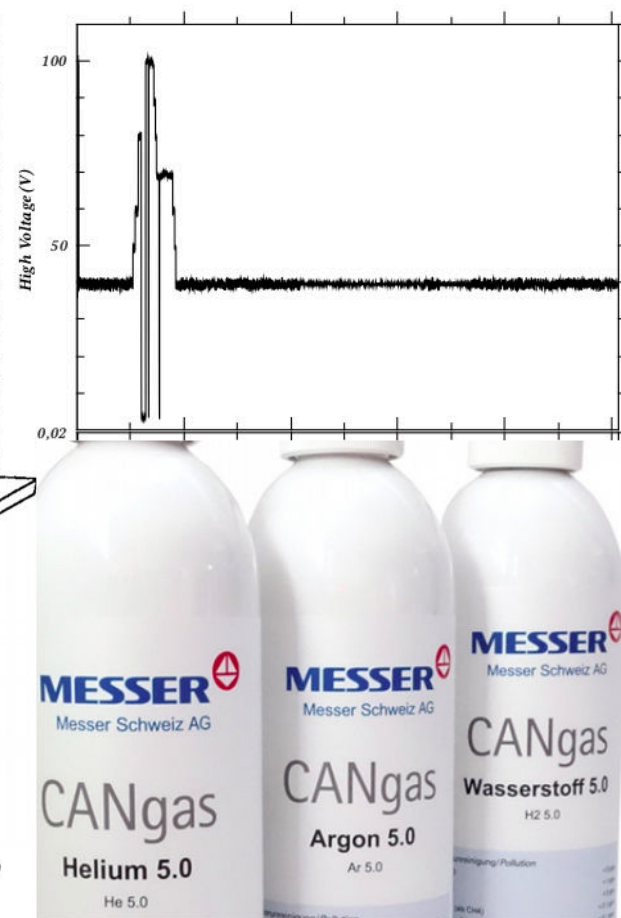
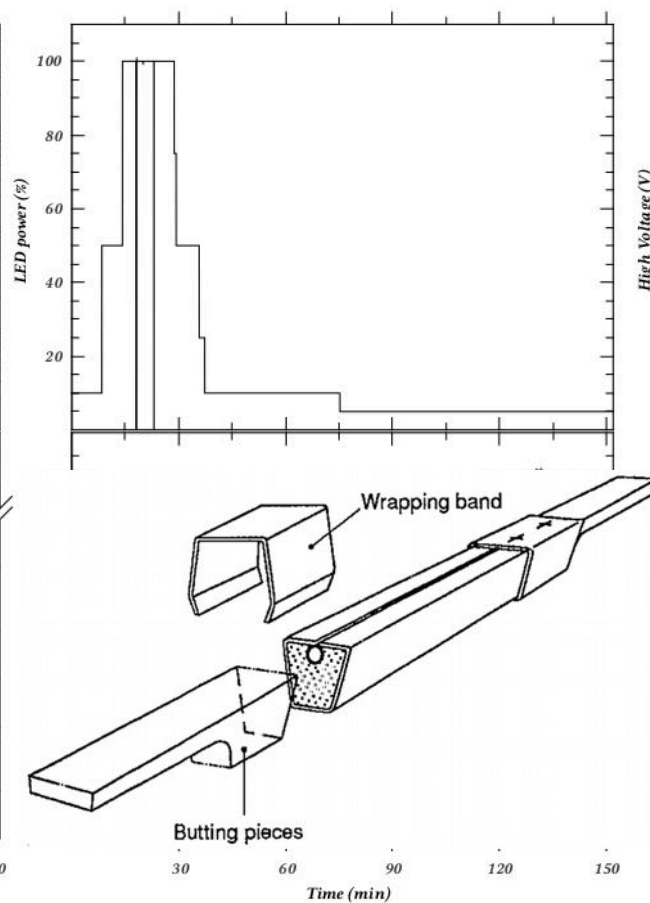
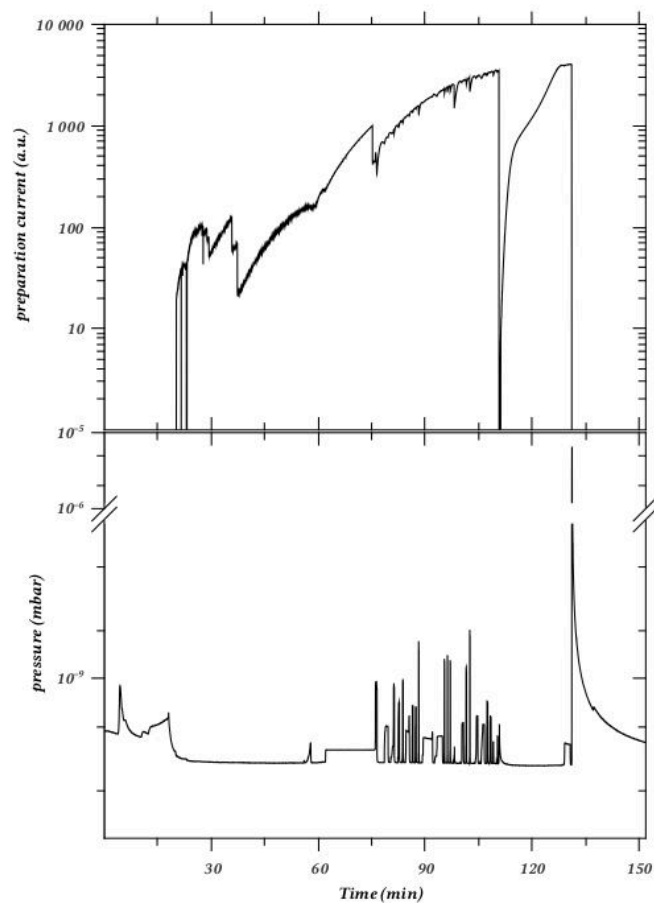
PEGASUS

– Overview –



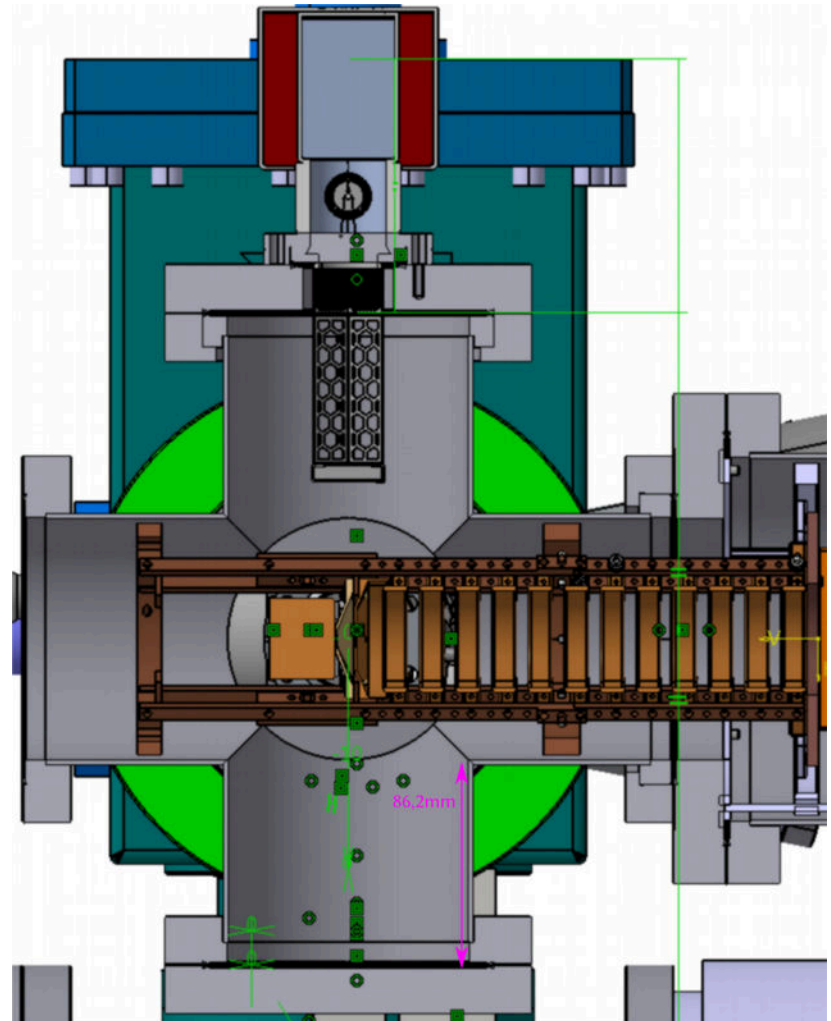
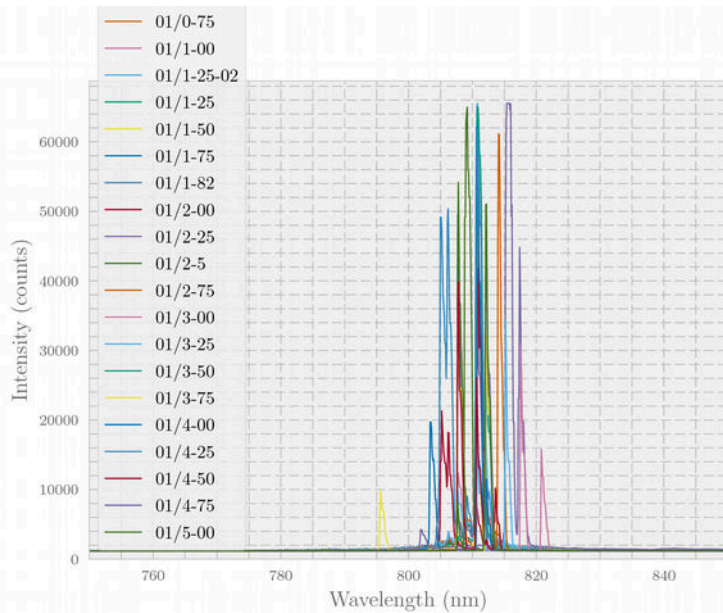
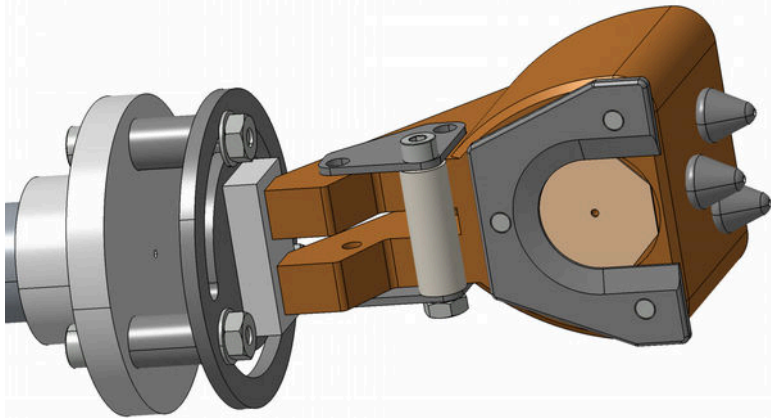
PEGASUS

– Preparation –



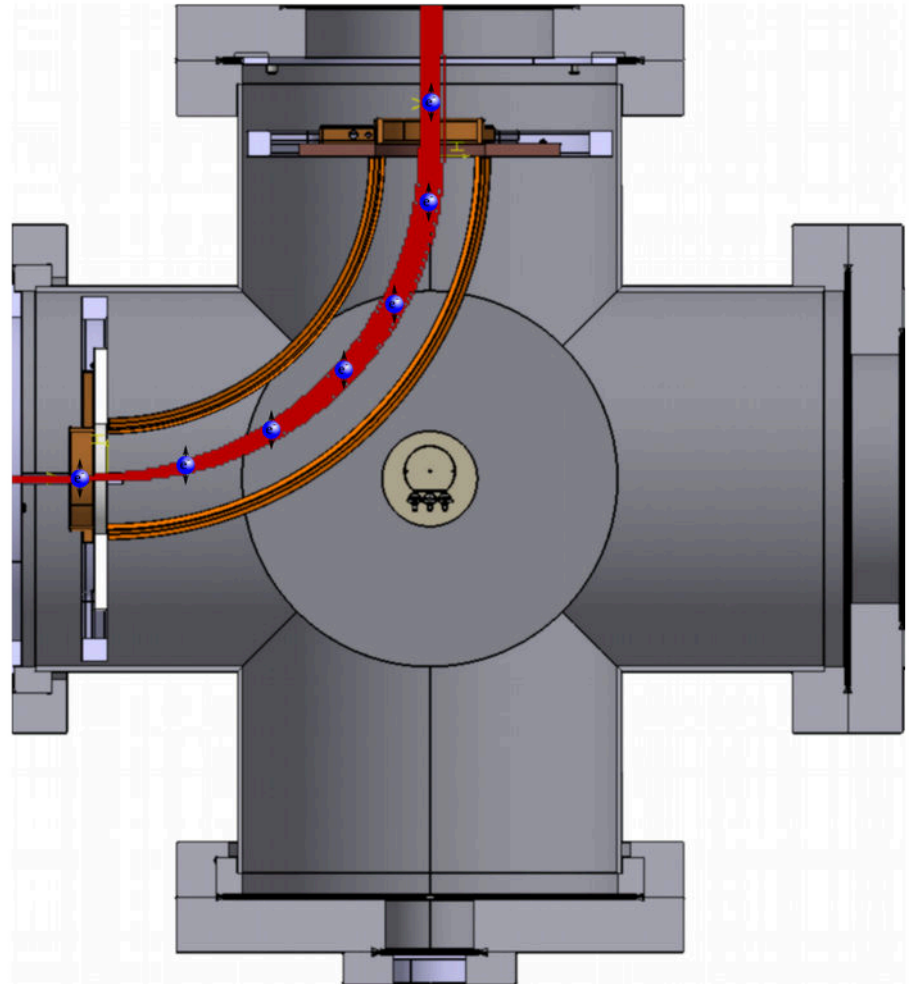
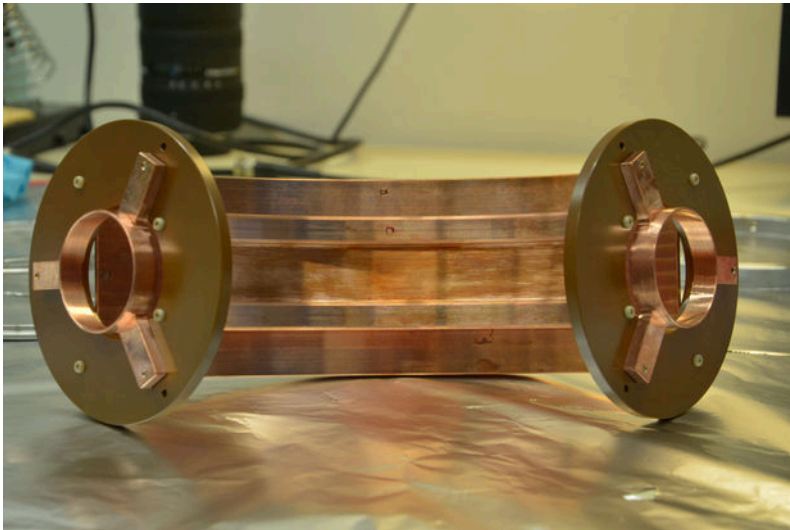
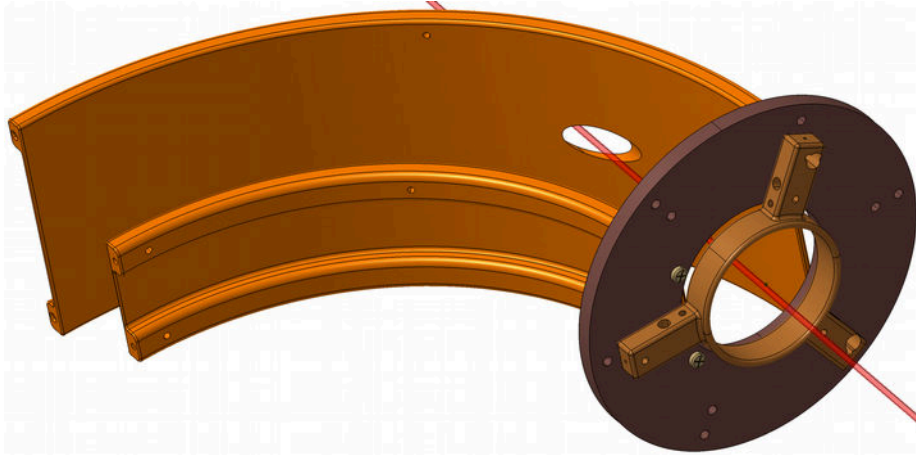
PEGASUS

– Extraction –

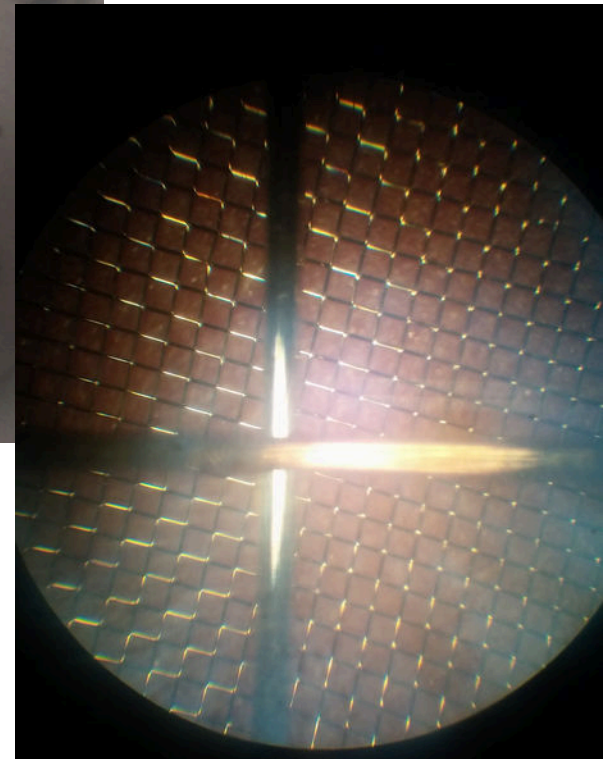
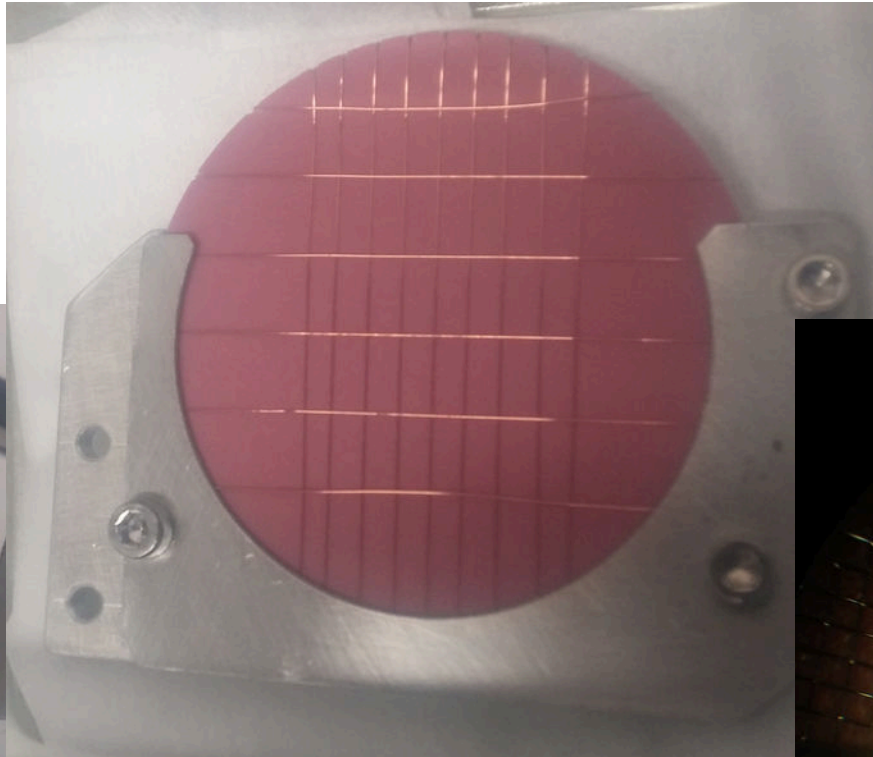


PEGASUS

– Electrostatical Bender –



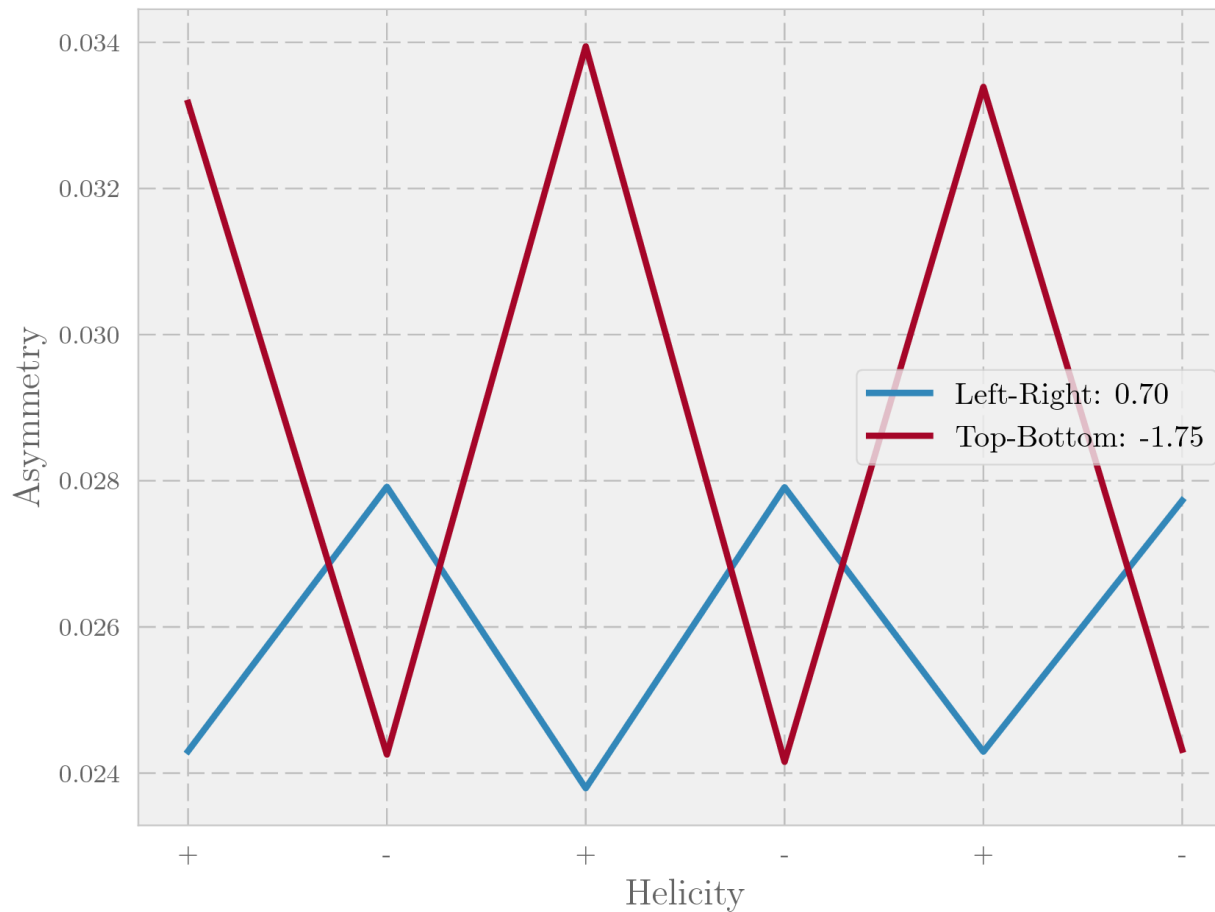
PEGASUS – Diagnosis –



PEGASUS

– Results –

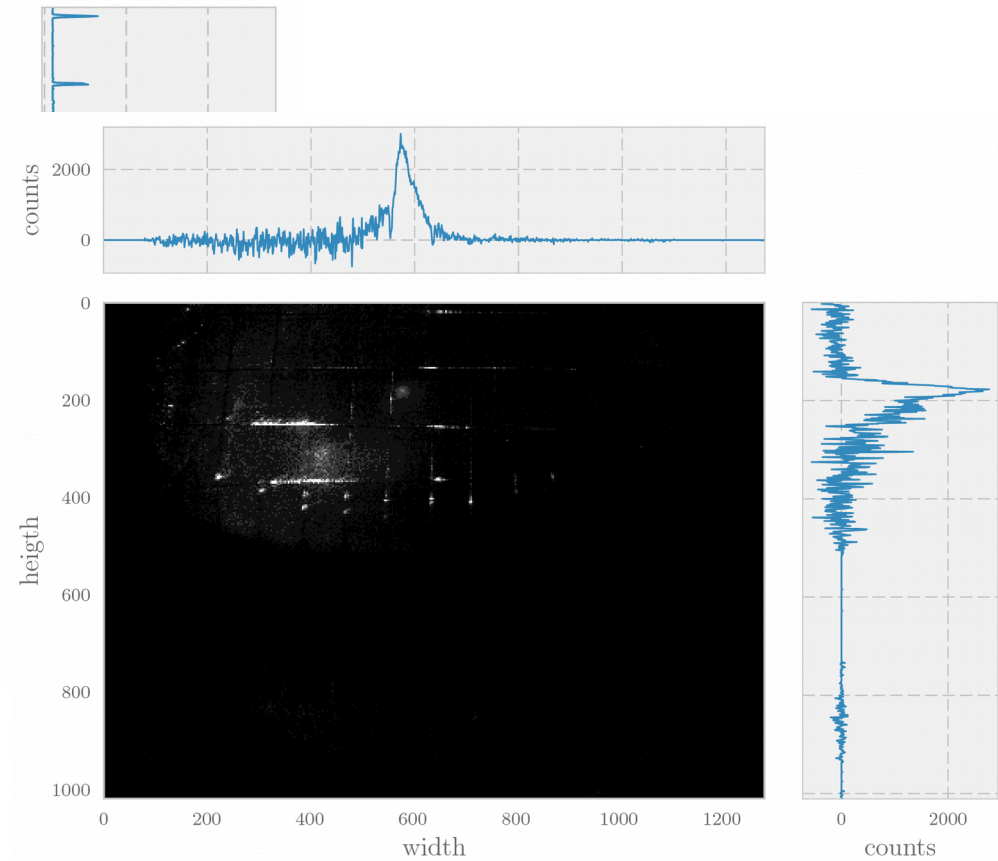
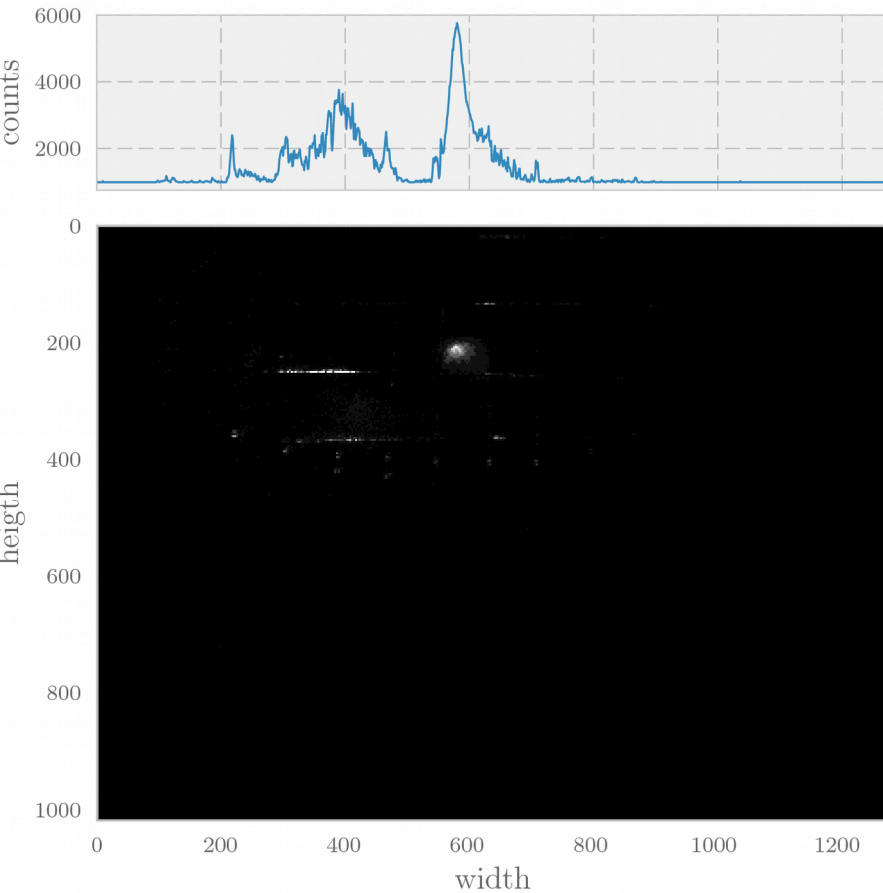
Polarization



PEGASUS

– Results –

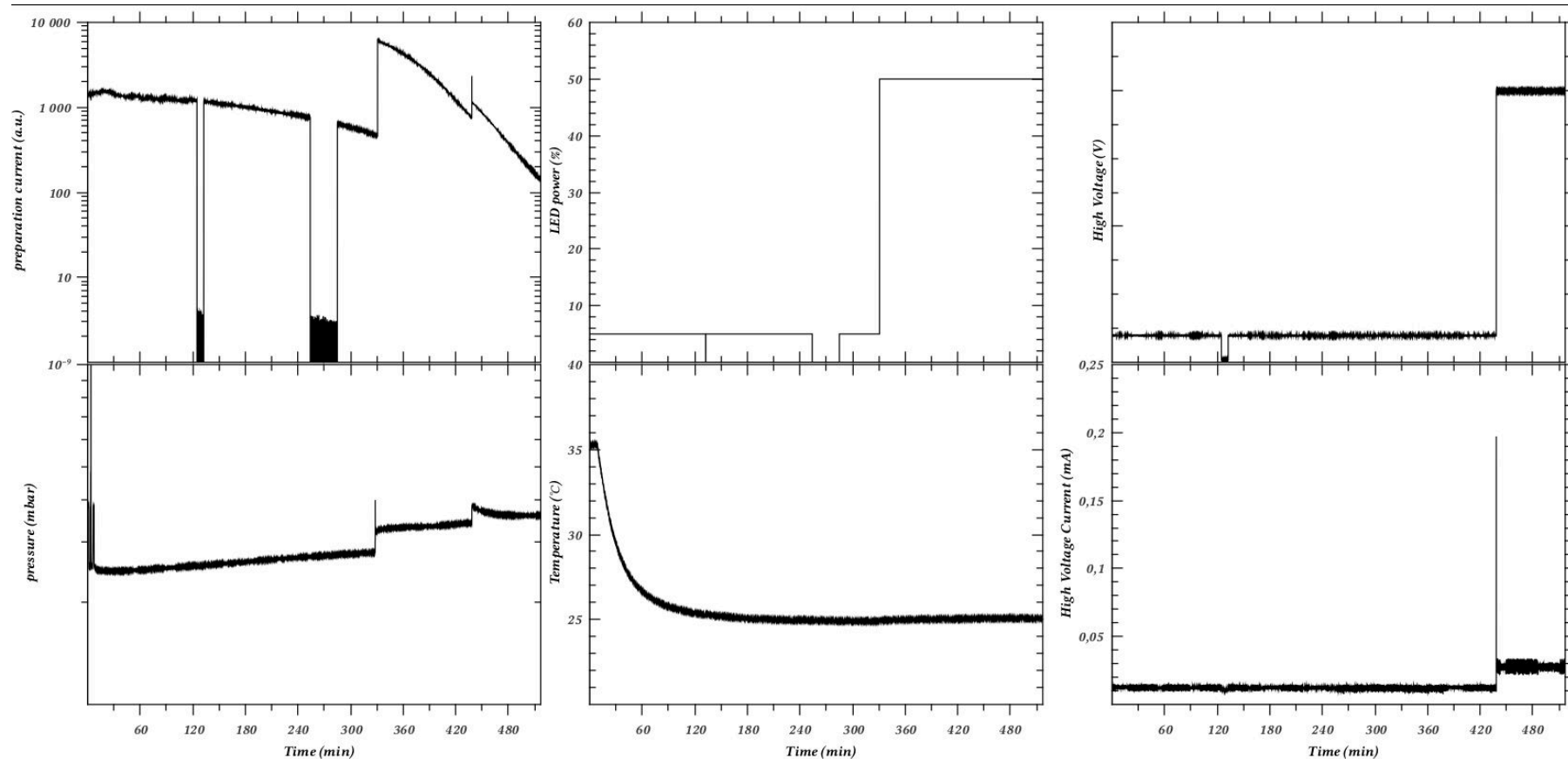
Beam Profile



PEGASUS

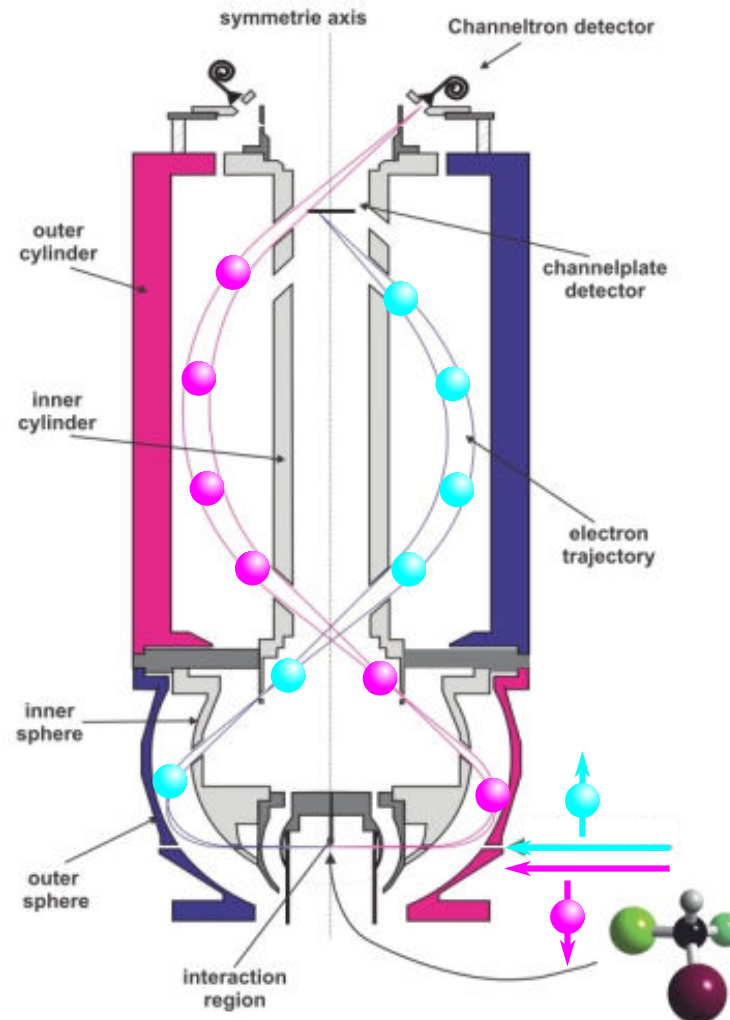
– Results –

Lifetime



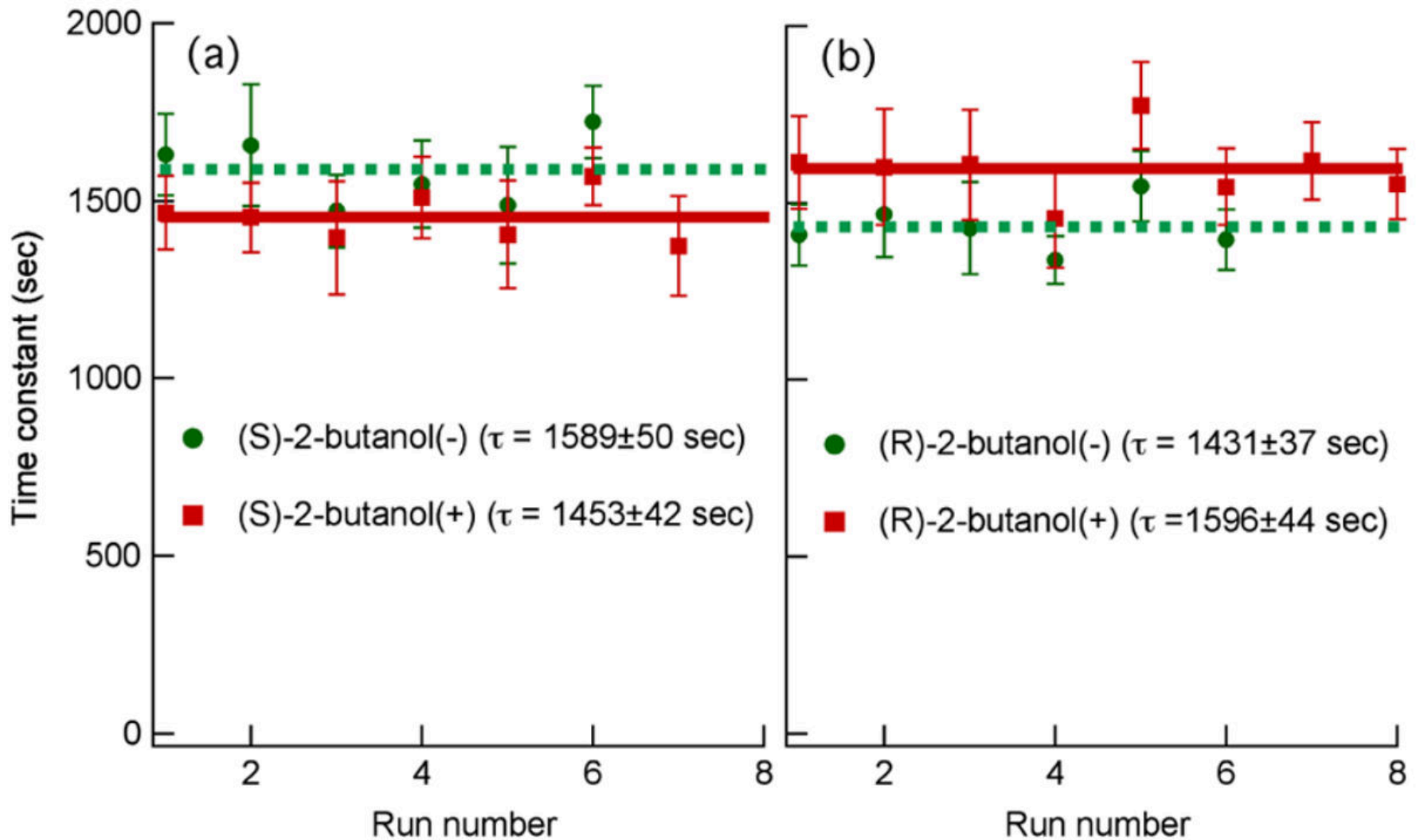
Physics Case

– Electron Dichroism –



Physics Case

– Stellar Ices –



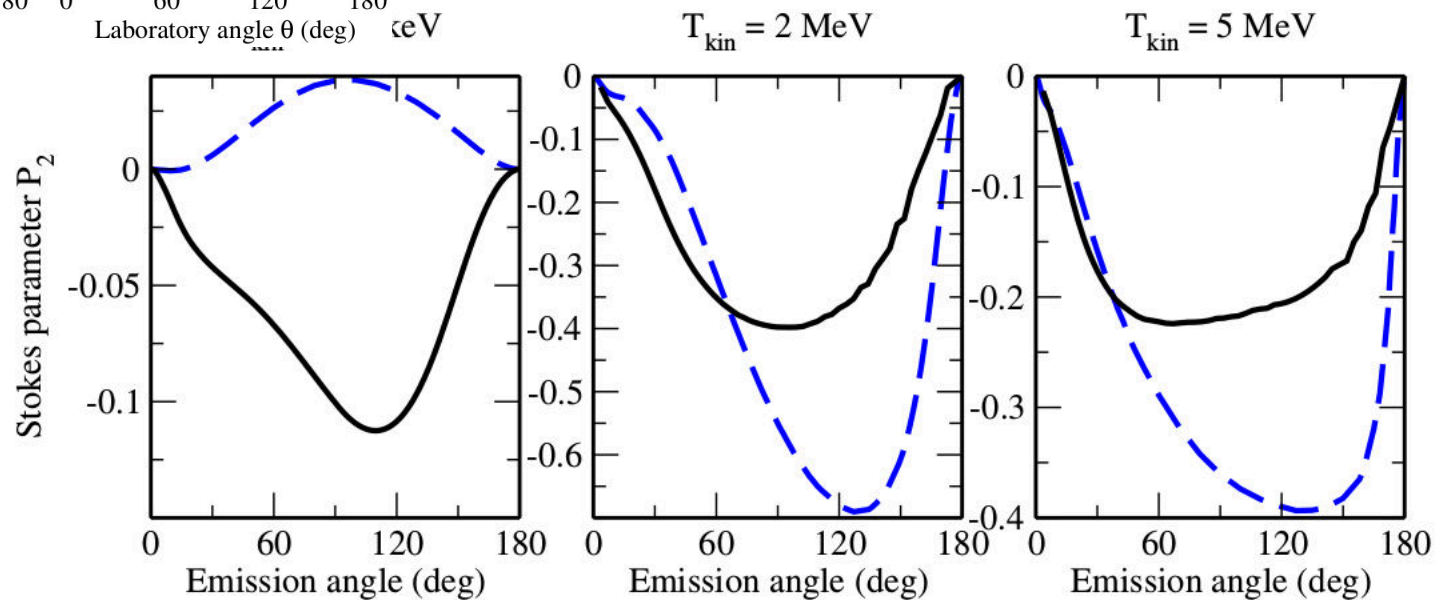
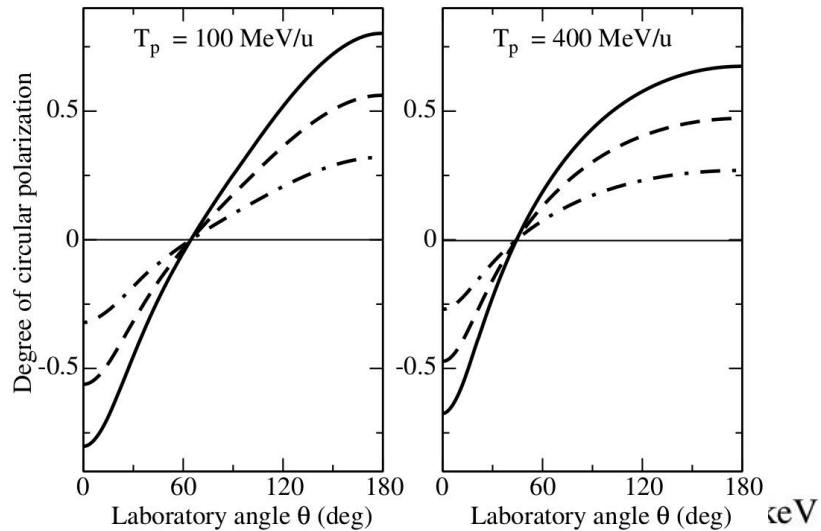
Physics Case

– Dissociative Recombination –

CLASSIFIED

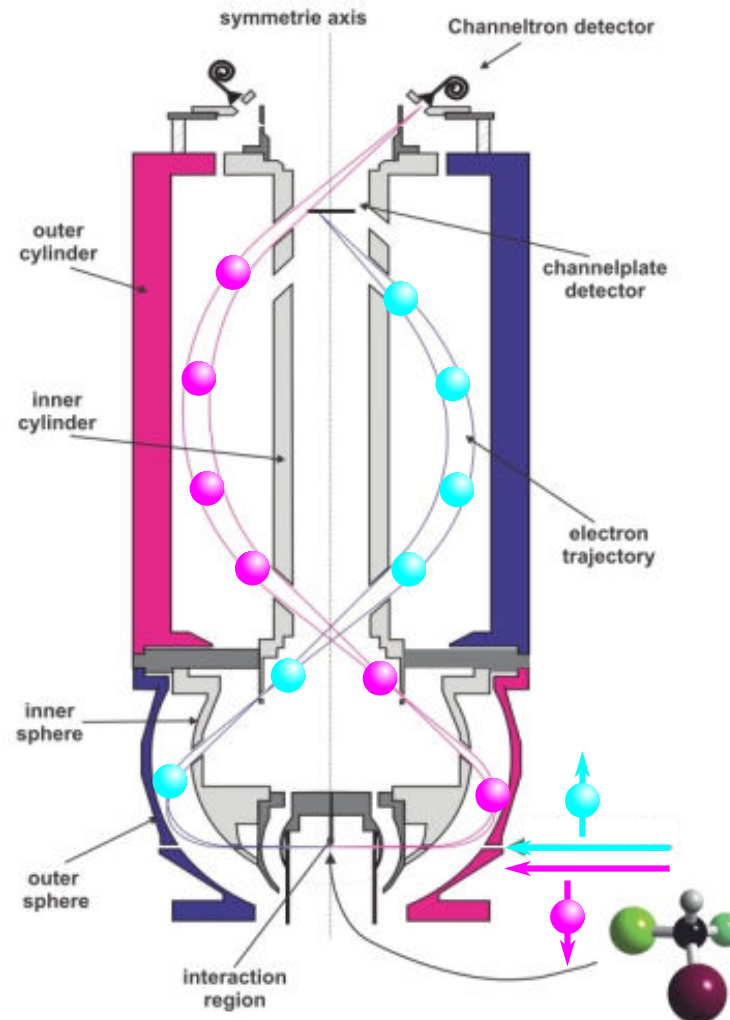
Physics Case

– Polarization Transfer –



Physics Case

– Electron Dichroism –



Summary

