

Sources Subgroup Summary

IDT-WG2, Jul.26. 2022, K. Yokoya

➤ Jul.18 29th Regular meeting

- ✓ Masao Kuriki, Kaoru Yokoya, Peter Sievers, Sabine Riemann,
- ✓ Indico <https://agenda.linearcollider.org/event/9763/>

➤ Talk by Joe Grames

“Status of Polarized Electron & Positron Source R&D at Jefferson Lab”

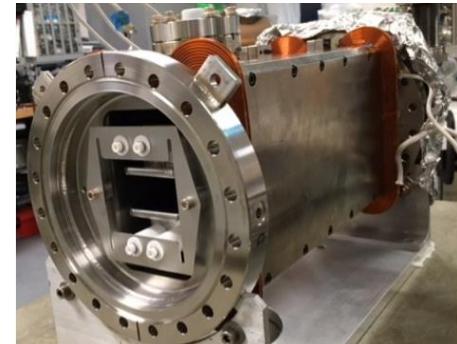
- ✓ Uploaded in the above indico page
- ✓ Introduction of many works at JLab in 2021-2022
- ✓ I cannot describe individual research
- ✓ Just give the table of contents

Jefferson Lab Polarized Source R&D Topics (2021 – 2022)

➤ Polarized e-

✓ High Polarization Photocathodes

- Molecular Beam Epitaxy (MBE)
- Molecular Organic Vapor Deposition (MOCVD)
- Chemical Beam Epitaxy (CBE)

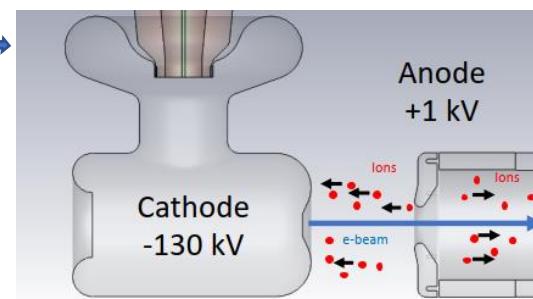


✓ High Voltage Devices

- 200 – 300 kV Wien filters
- 500 kV inverted insulator
- 300 kV polarized 1 mA photogun (proposal, driver for pol. e+ production)

✓ Ion Damage Experiments

- Biased anode mitigation
- Robust chemistry
- Gun voltage dependence



✓ Simulation & Modeling

- GPT ion generation & spin tracking
- Lifetime evolution model
- Spot size evolution model

➤ Polarized e+

✓ Polarized positrons beams for CEBAF

- Positron physics scope (today)
- CEBAF upgrades beyond 12 GeV e-
 - Polarized positron improvement
 - Energy upgrade 22 GeV
- Positron injector
- Technical workshop

