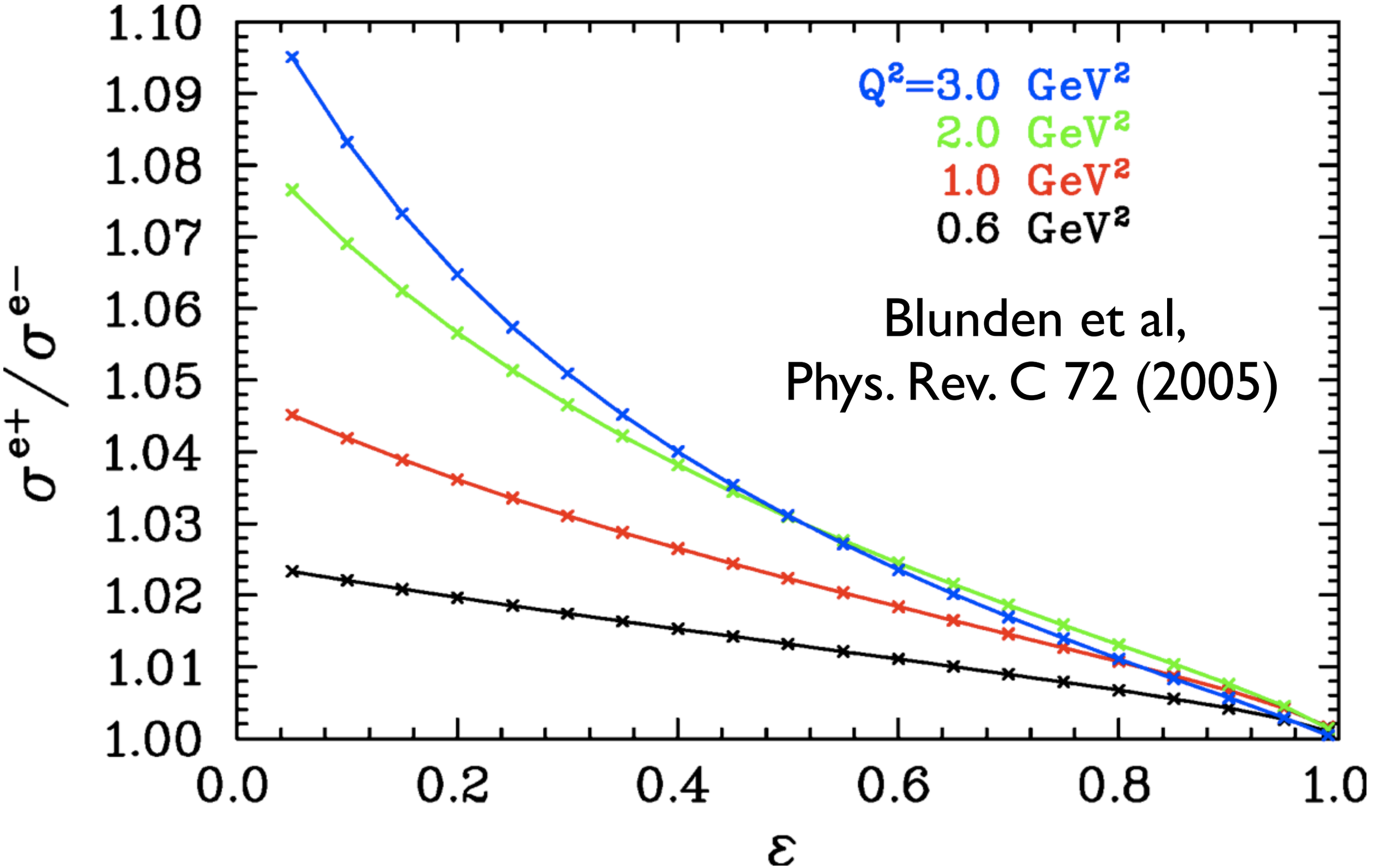
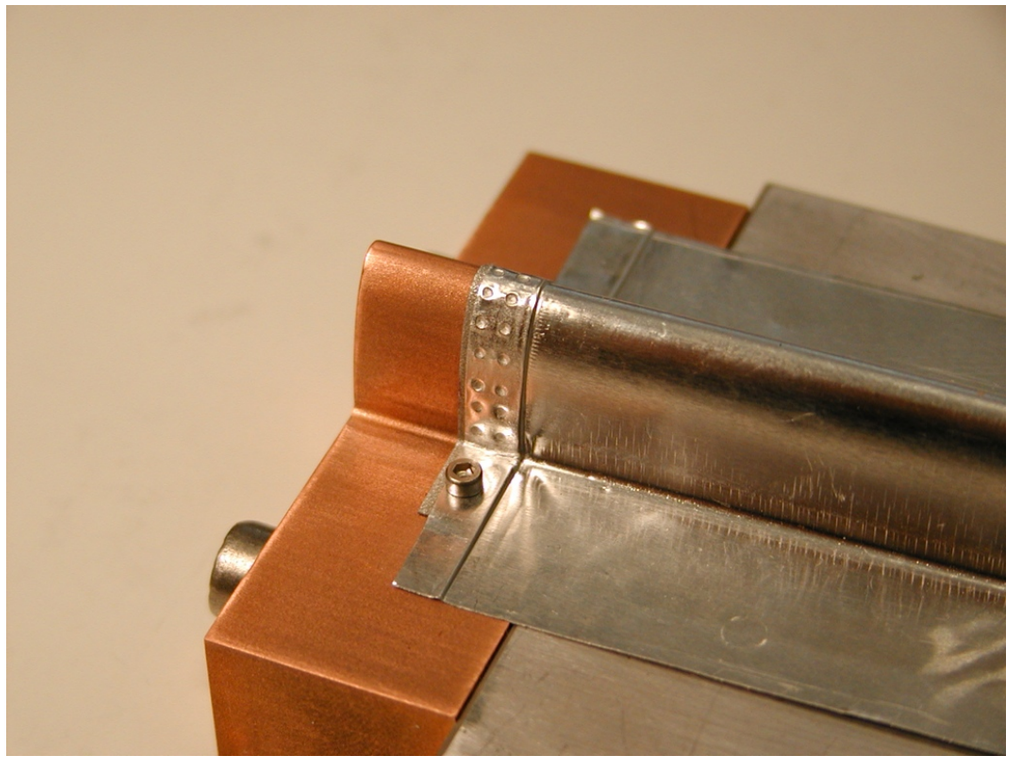
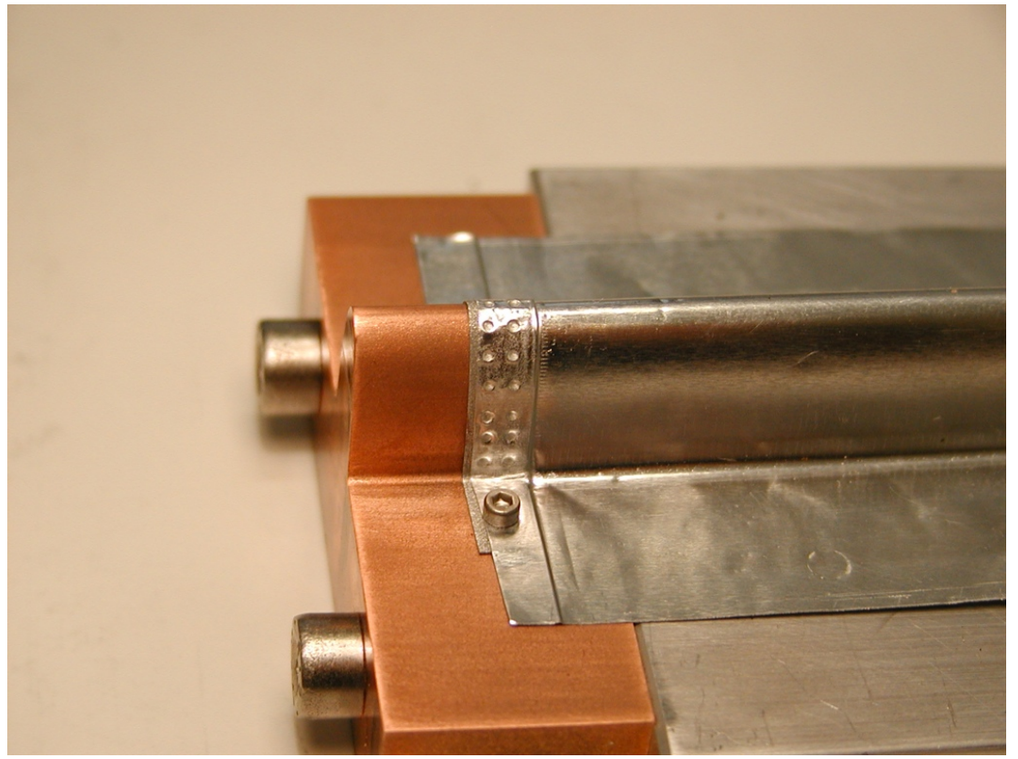
Why 2 GeV ?

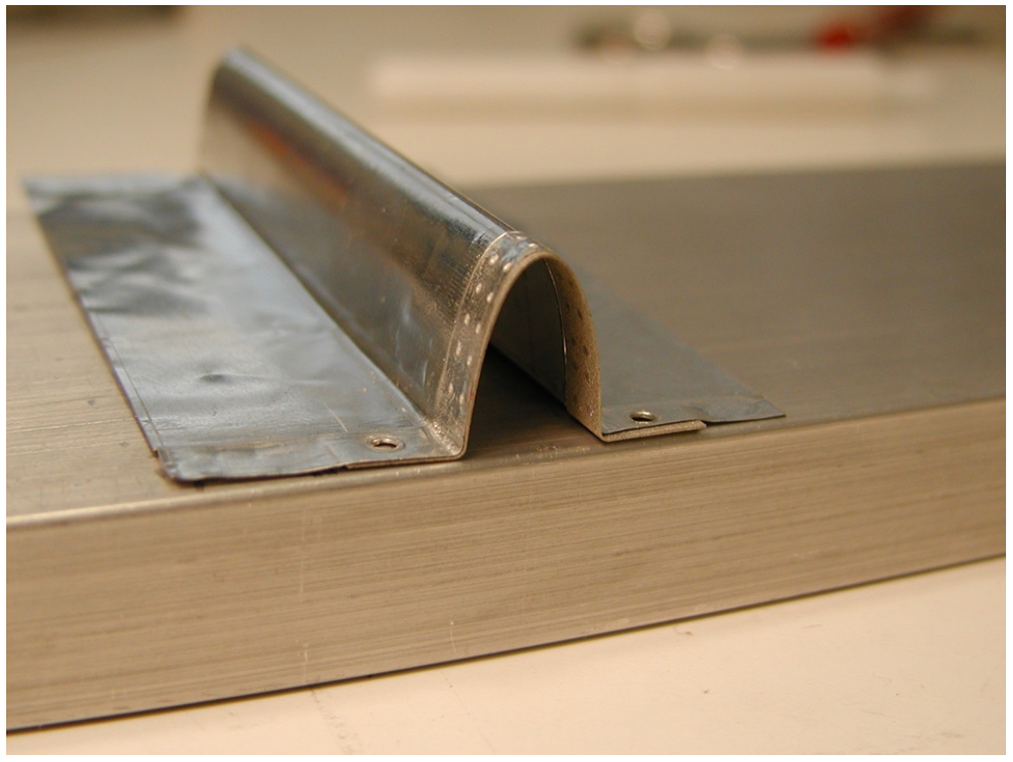


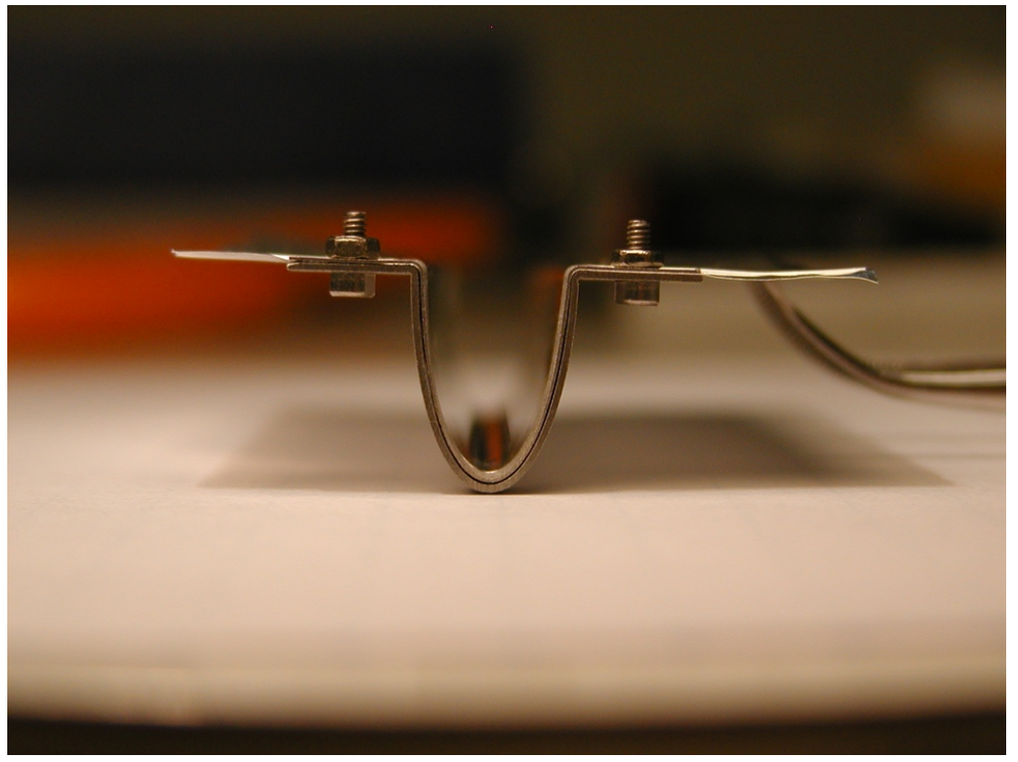
Blunden et al,
Phys. Rev. C 72 (2005)

Improved Weld and Target Cell Support









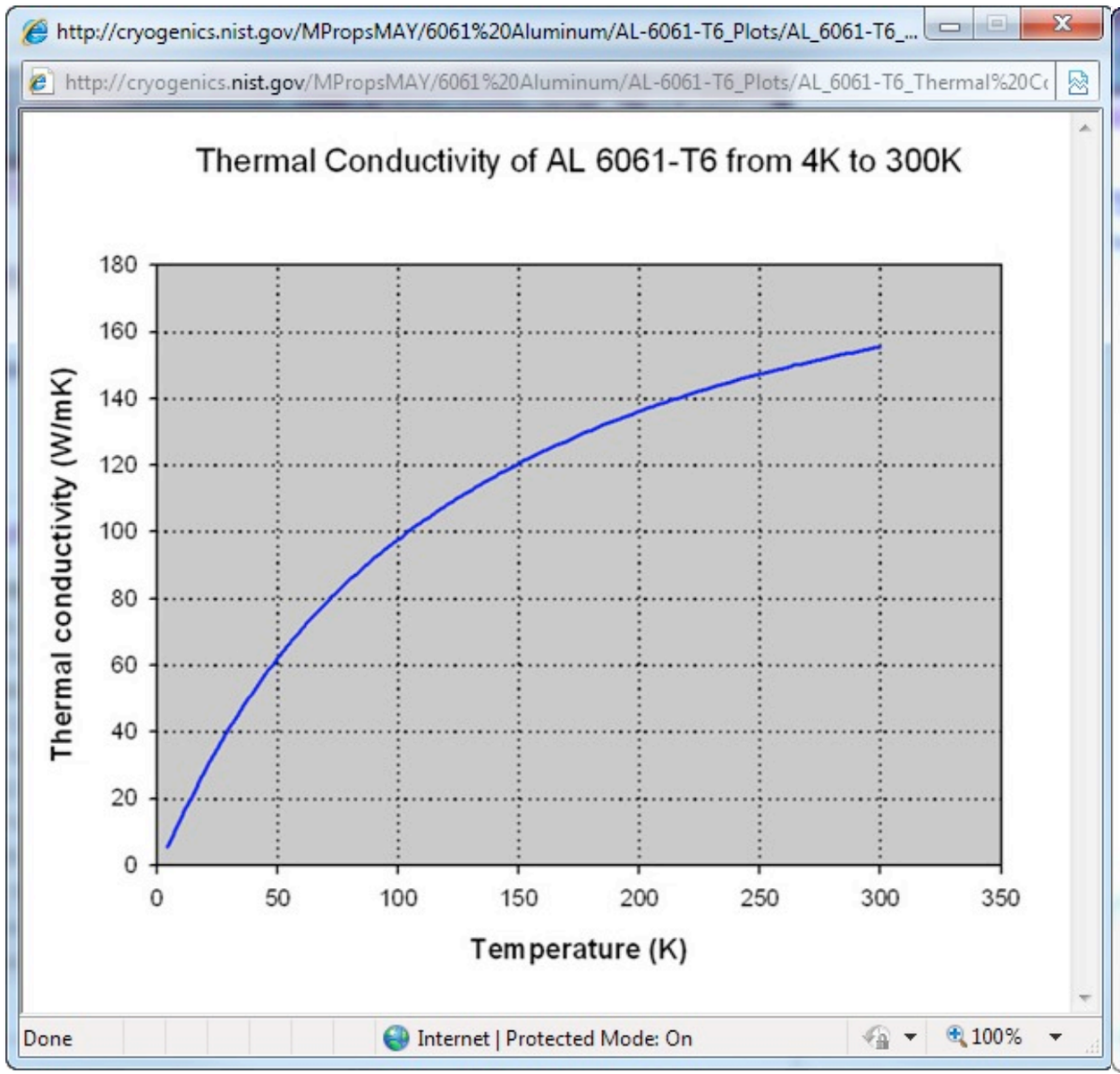
OLYMPUS Estimated Common Costs (k€)

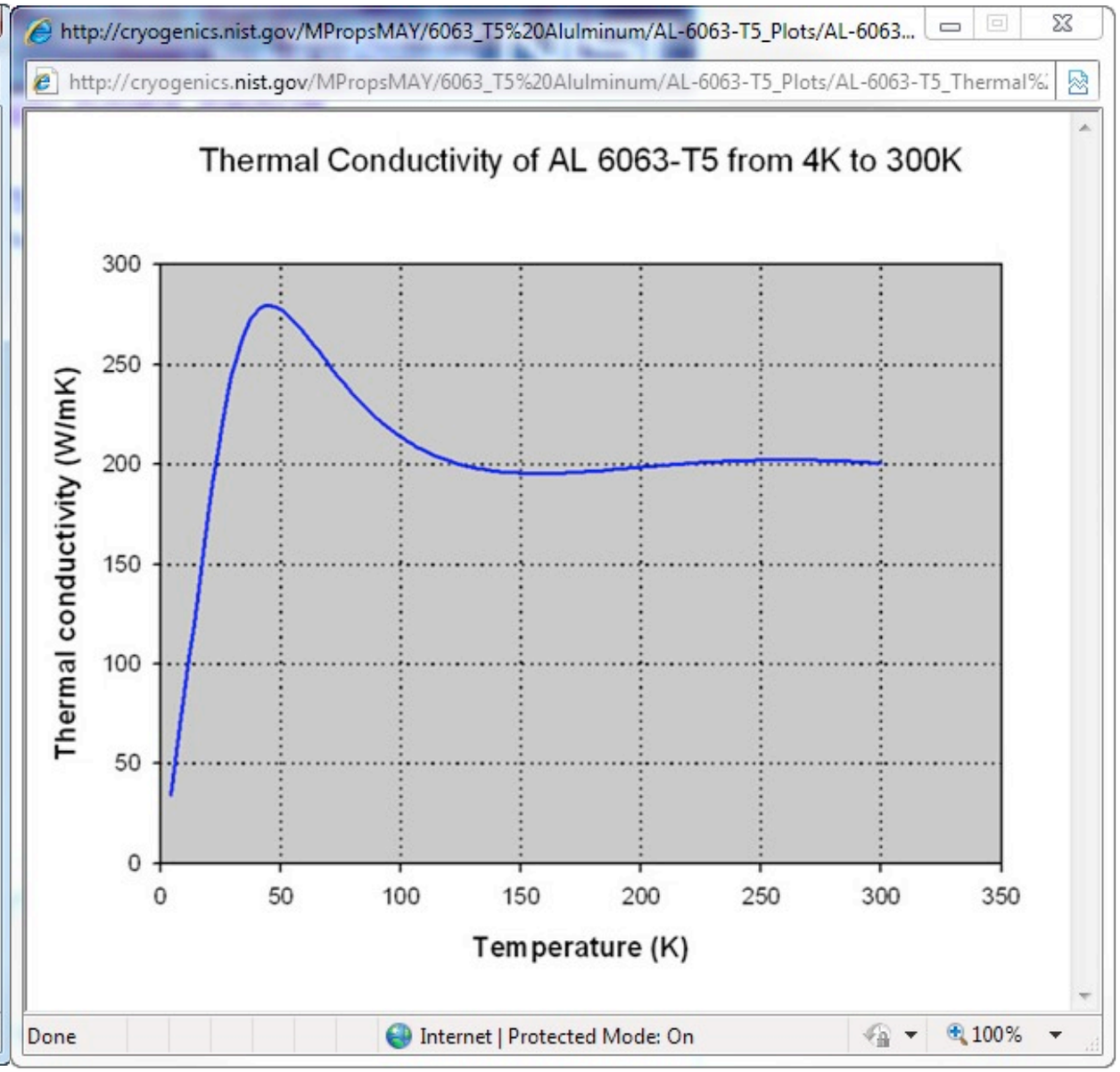
21.3.2011

institute	number of physicists	fraction	2010 + 2011 cost	overhead	VAT	cost incl.	2012 cost	overhead	VAT	cost incl.
Bonn	5	0.098	9.8	1.0	0.7	11.5	55.9	5.6	3.9	65.4
DESY	5	0.098	9.8	1.0	0.7	11.5	55.9	5.6	3.9	65.4
Mainz	4	0.078	7.8	0.8	0.5	9.2	44.7	4.5	3.1	52.3
Arizona	1	0.020	2.0	0.2	0.1	2.3	11.2	1.1	0.8	13.1
Colorado	1	0.020	2.0	0.2	0.1	2.3	11.2	1.1	0.8	13.1
Hampton	2	0.039	3.9	0.4	0.3	4.6	22.4	2.2	1.6	26.2
Kentucky	1	0.020	2.0	0.2	0.1	2.3	11.2	1.1	0.8	13.1
MIT	8	0.157	15.7	1.6	1.1	18.4	89.4	8.9	6.3	104.6
New Hampshi	1	0.020	2.0	0.2	0.1	2.3	11.2	1.1	0.8	13.1
Glasgow	4	0.078	7.8	0.8	0.5	9.2	44.7	4.5	3.1	52.3
INFN Bari	1	0.020	2.0	0.2	0.1	2.3	11.2	1.1	0.8	13.1
INFN Ferrara	4	0.078	7.8	0.8	0.5	9.2	44.7	4.5	3.1	52.3
INFN Rome	2	0.039	3.9	0.4	0.3	4.6	22.4	2.2	1.6	26.2
PNPI	7	0.137	13.7	1.4	1.0	16.1	78.2	7.8	5.5	91.5
Yerevan	5	0.098	9.8	1.0	0.7	11.5	55.9	5.6	3.9	65.4
sum	51	1	100.0	10.0	7.0	117.0	570.0	57.0	39.9	666.9

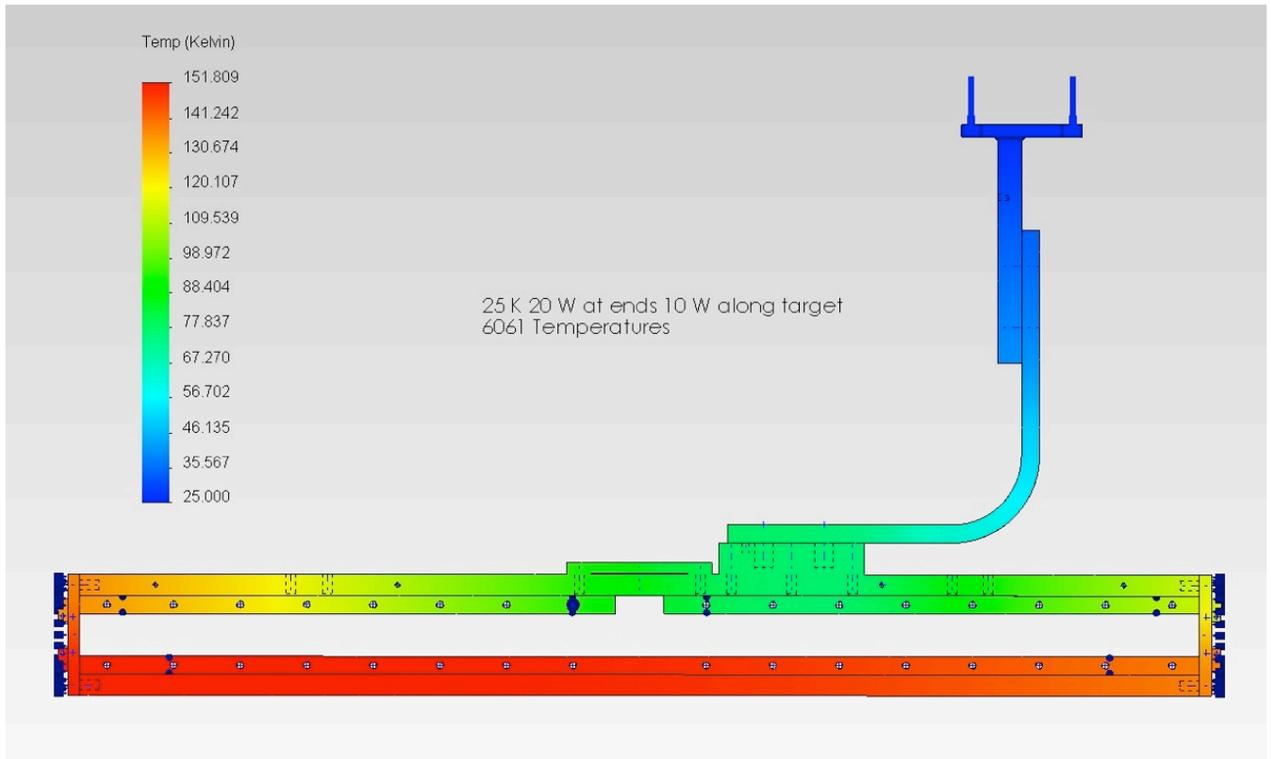
Estimate assuming same number of physicists as in 2011

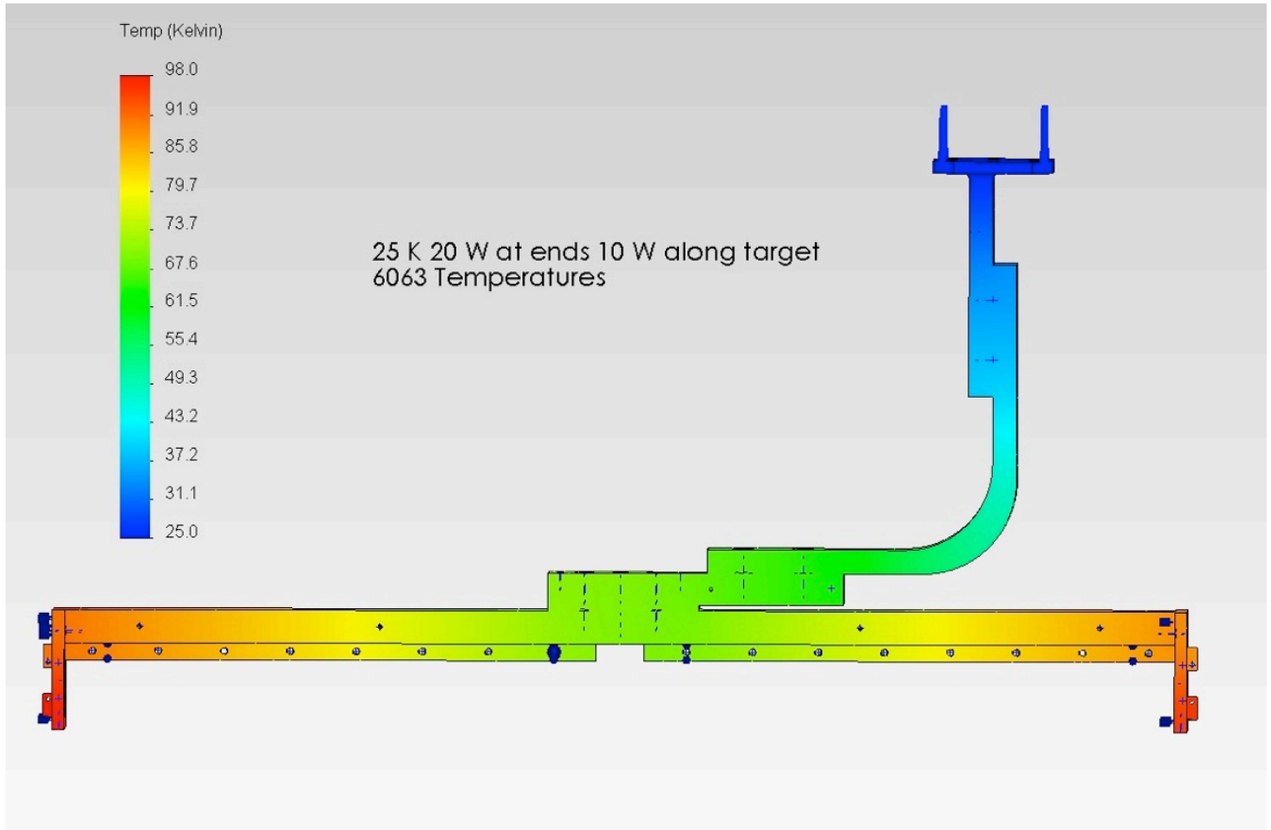
Different Thermal Conductivities



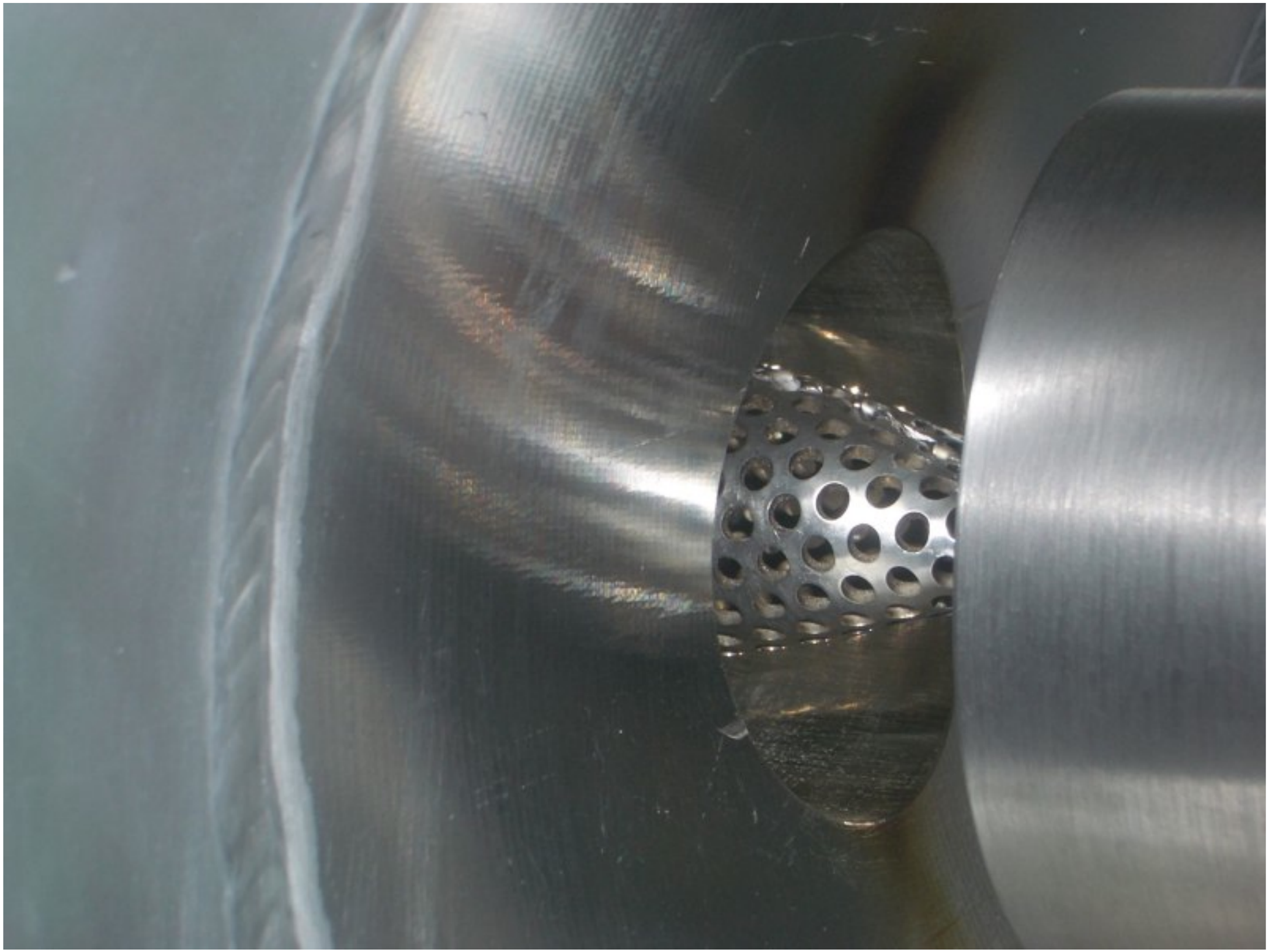


Temperature Differences

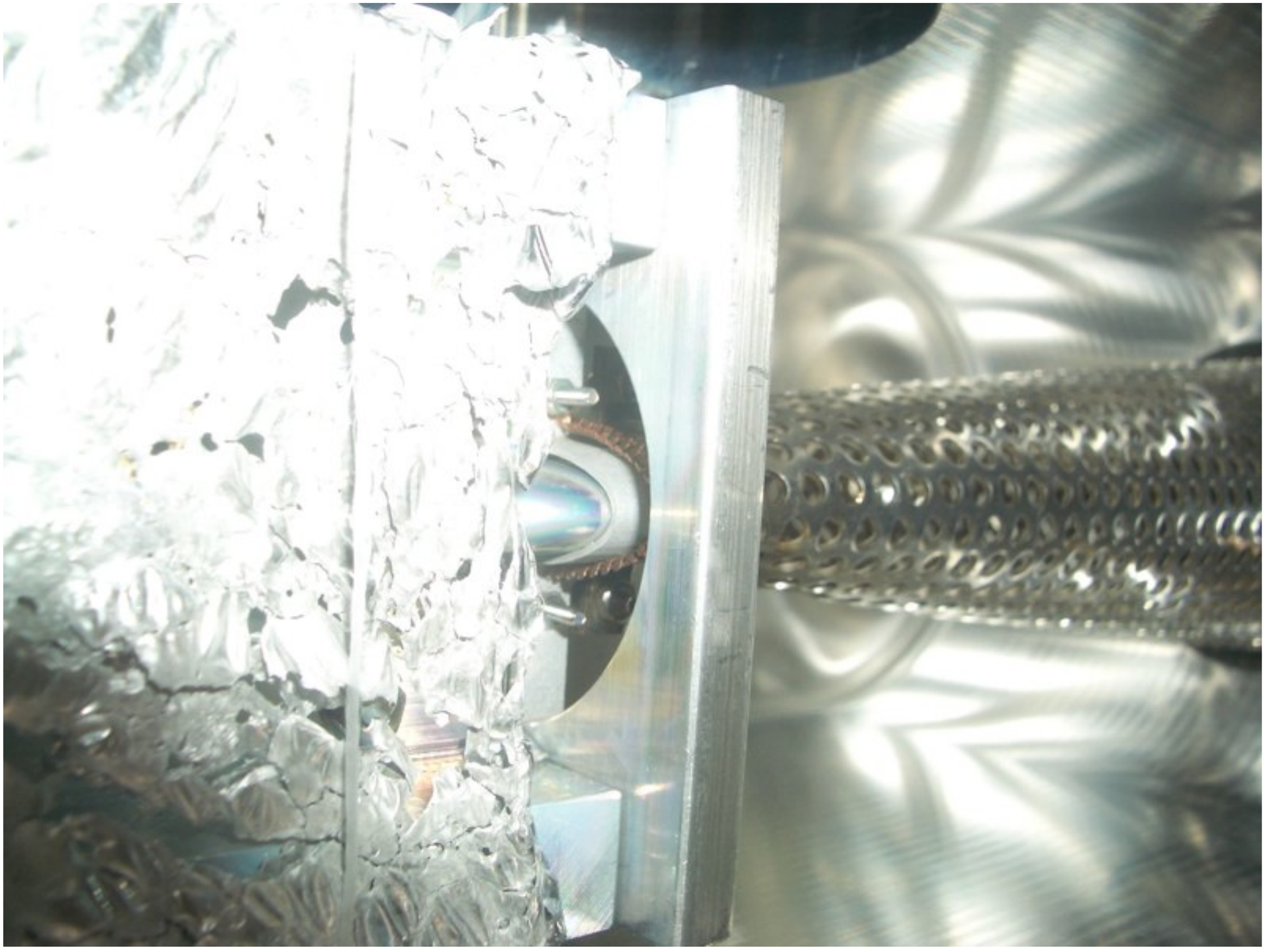




Strange Burn on Upstream End

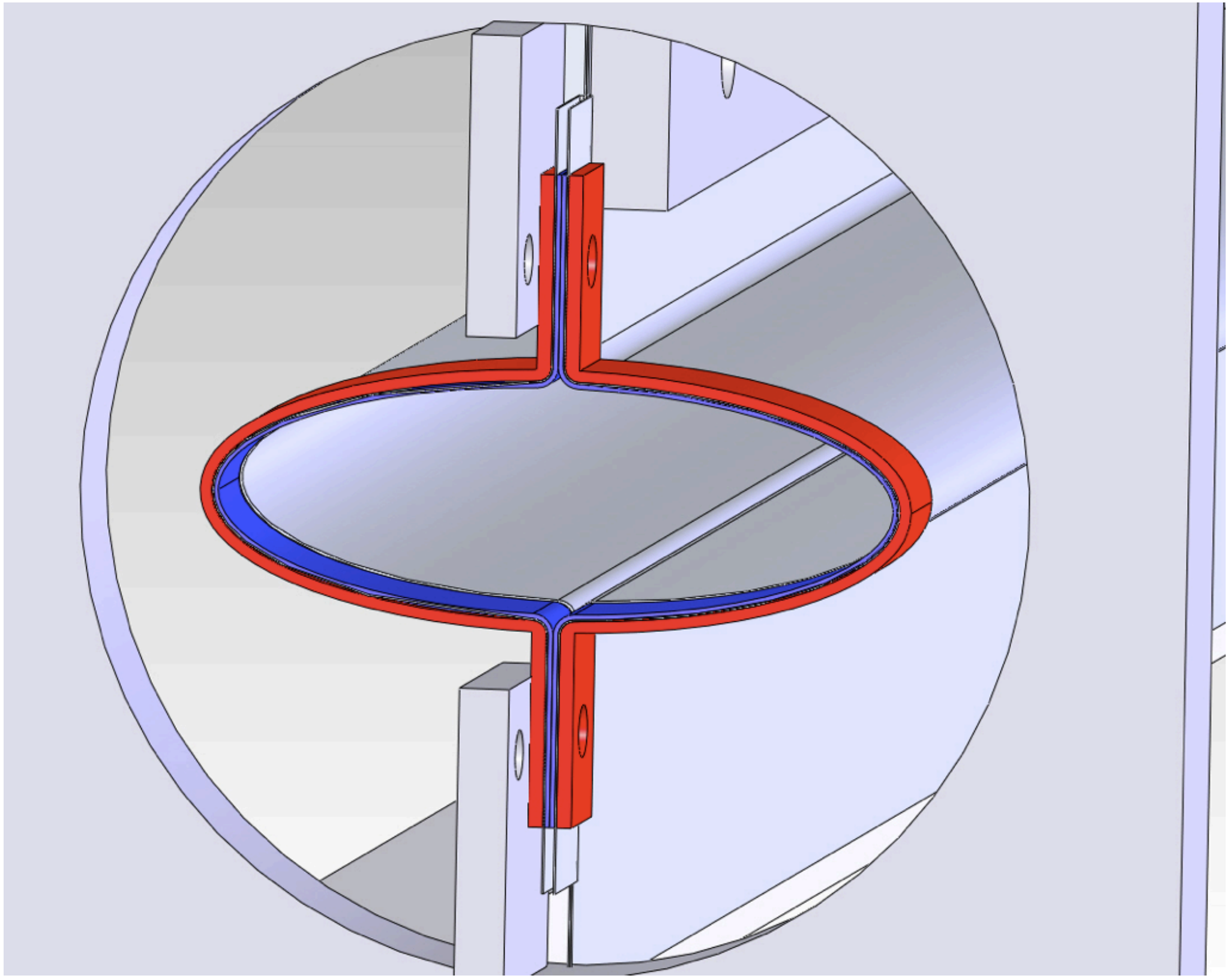


Wakefield Suppress Lost Contact

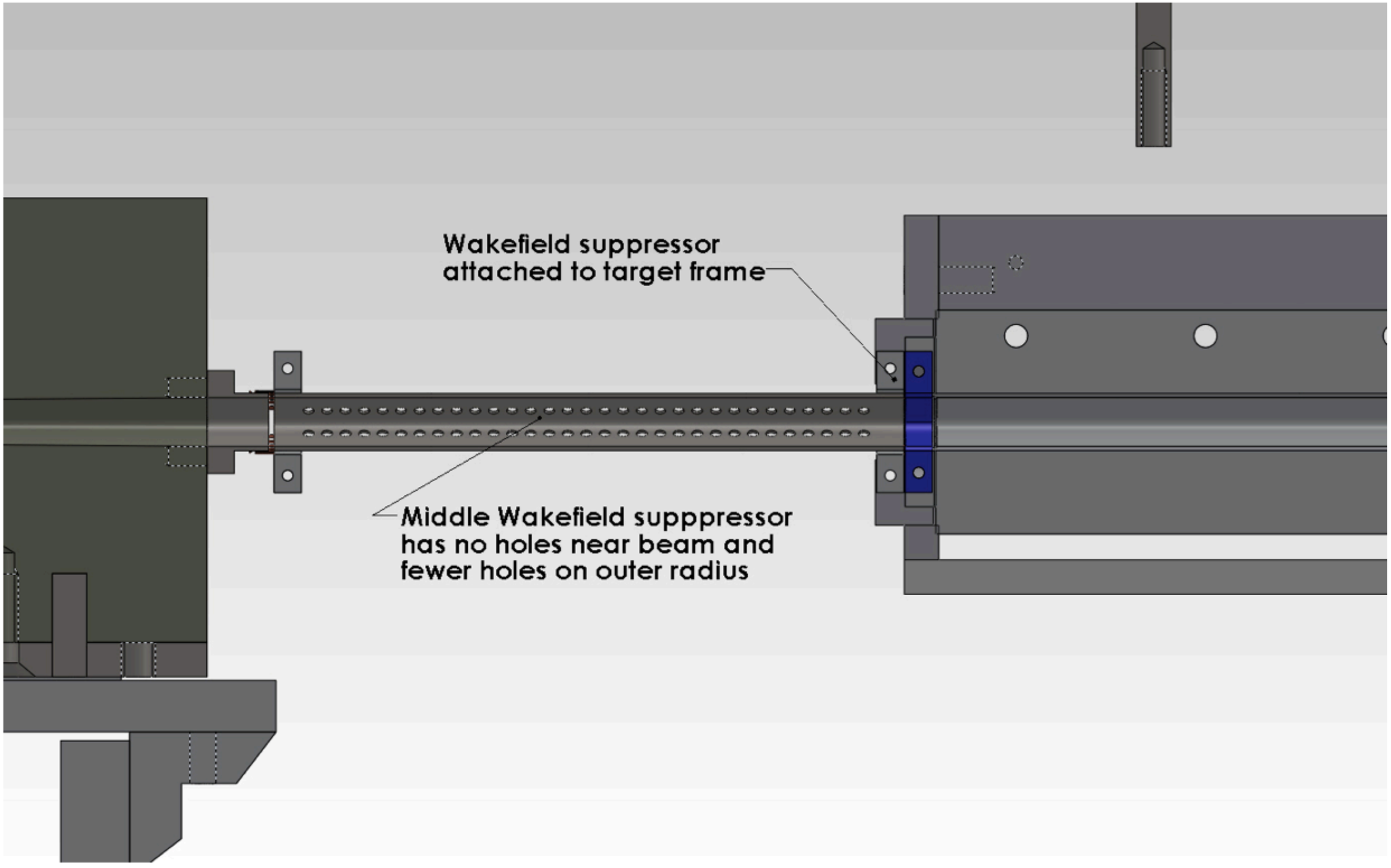


Welds of Target Cell to Ring Broken

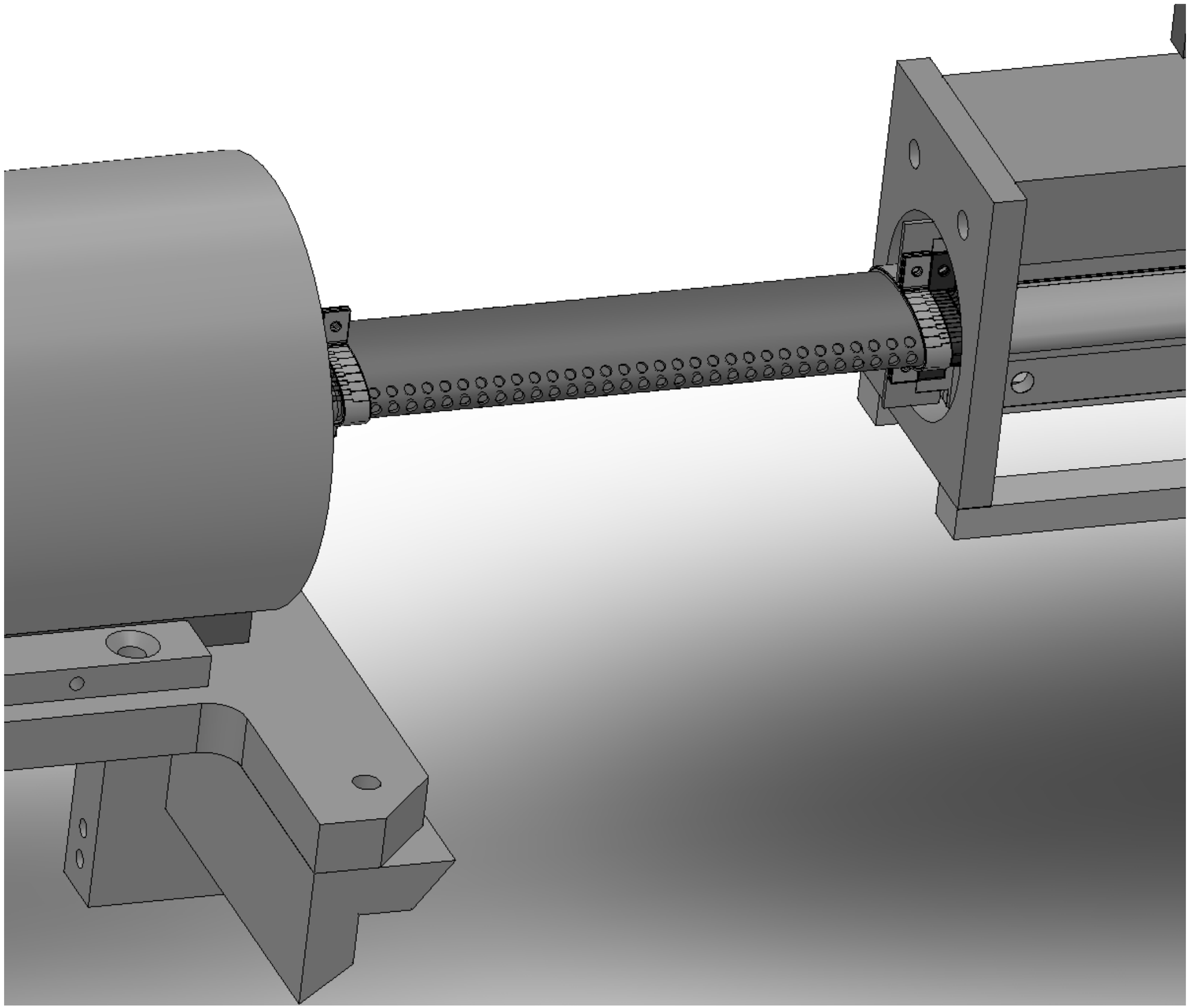
Improved Target Coupling



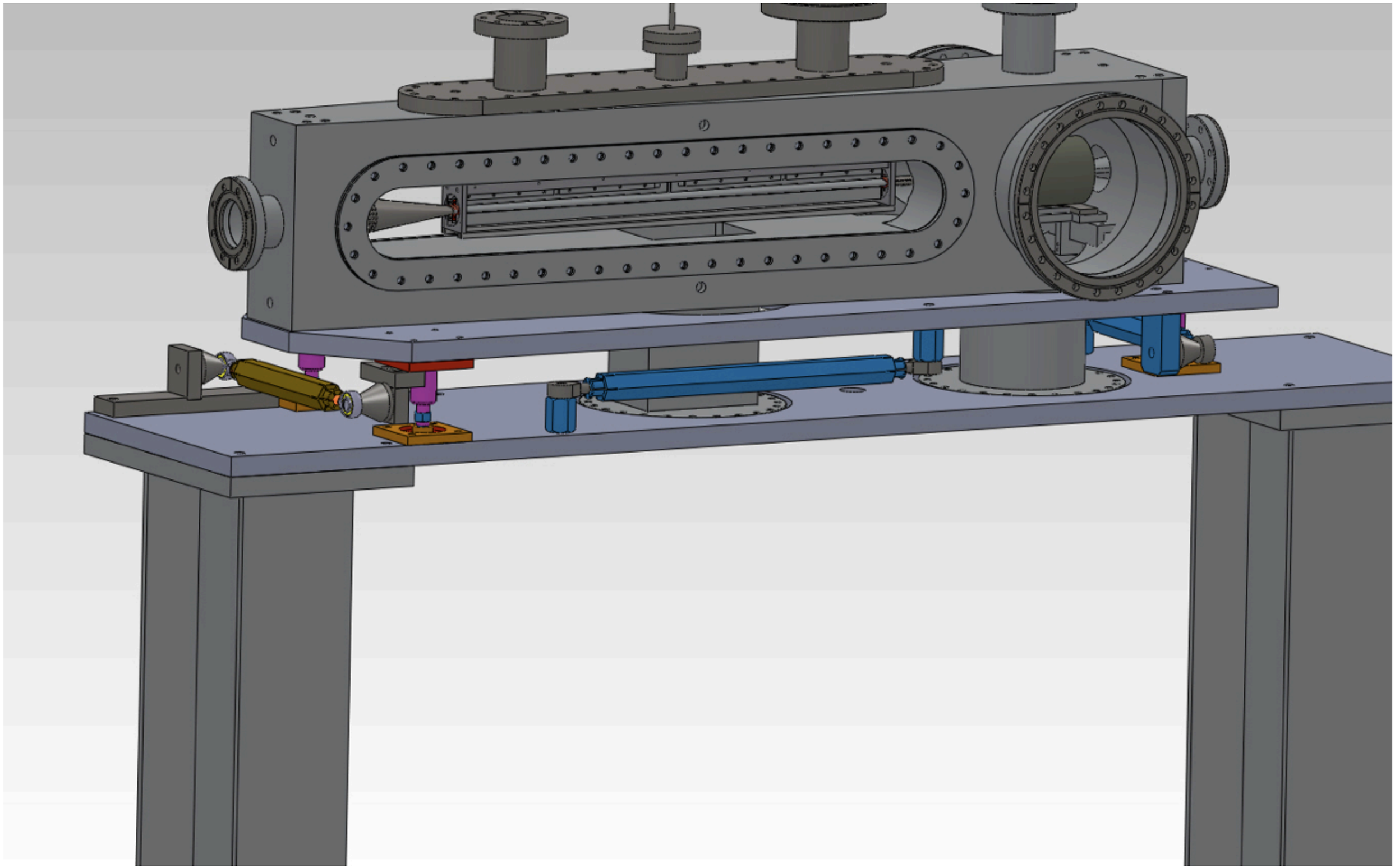
Improved Wakefield Coupling to Target



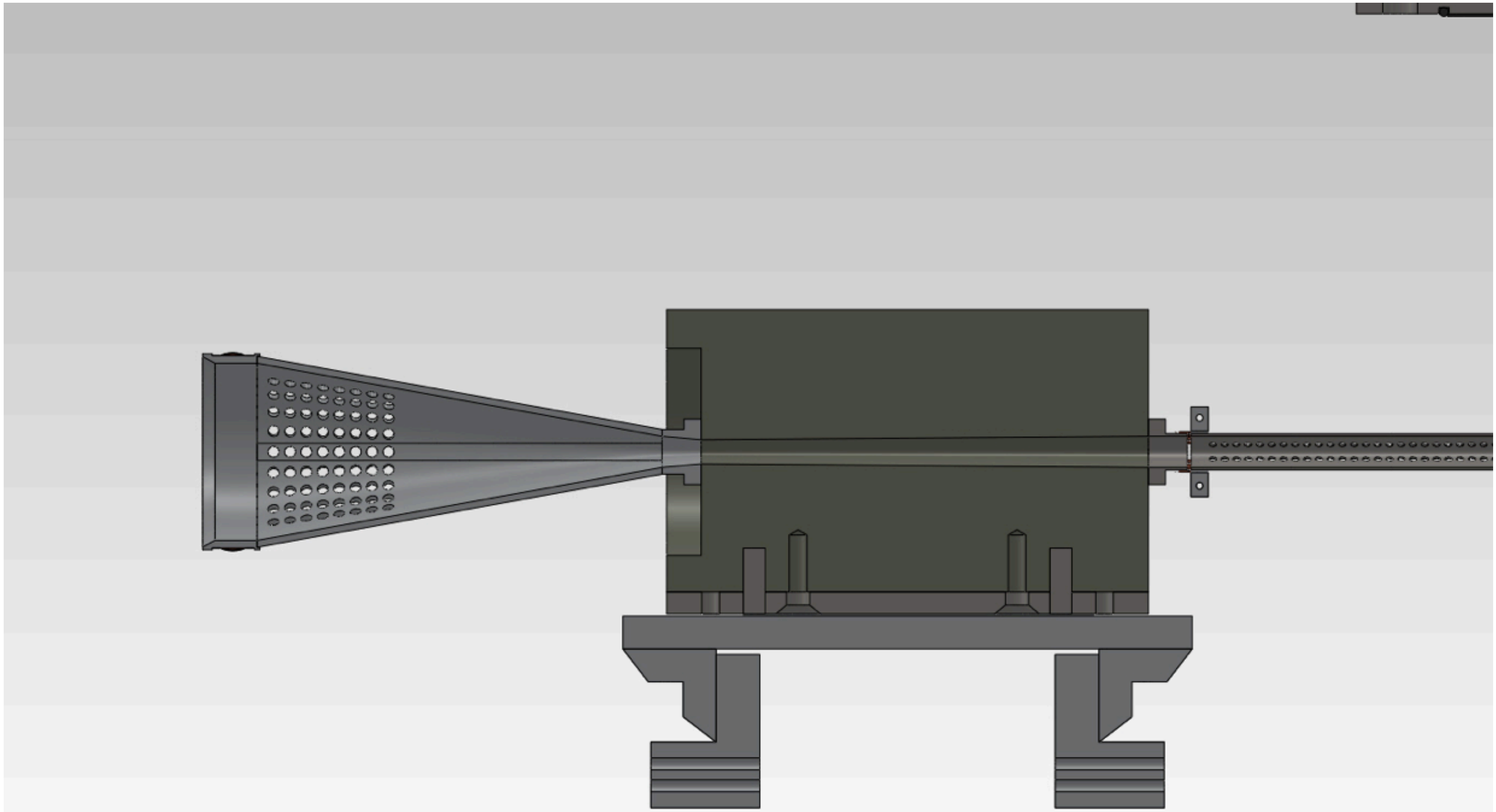
Improved Target Wakefield Suppressor



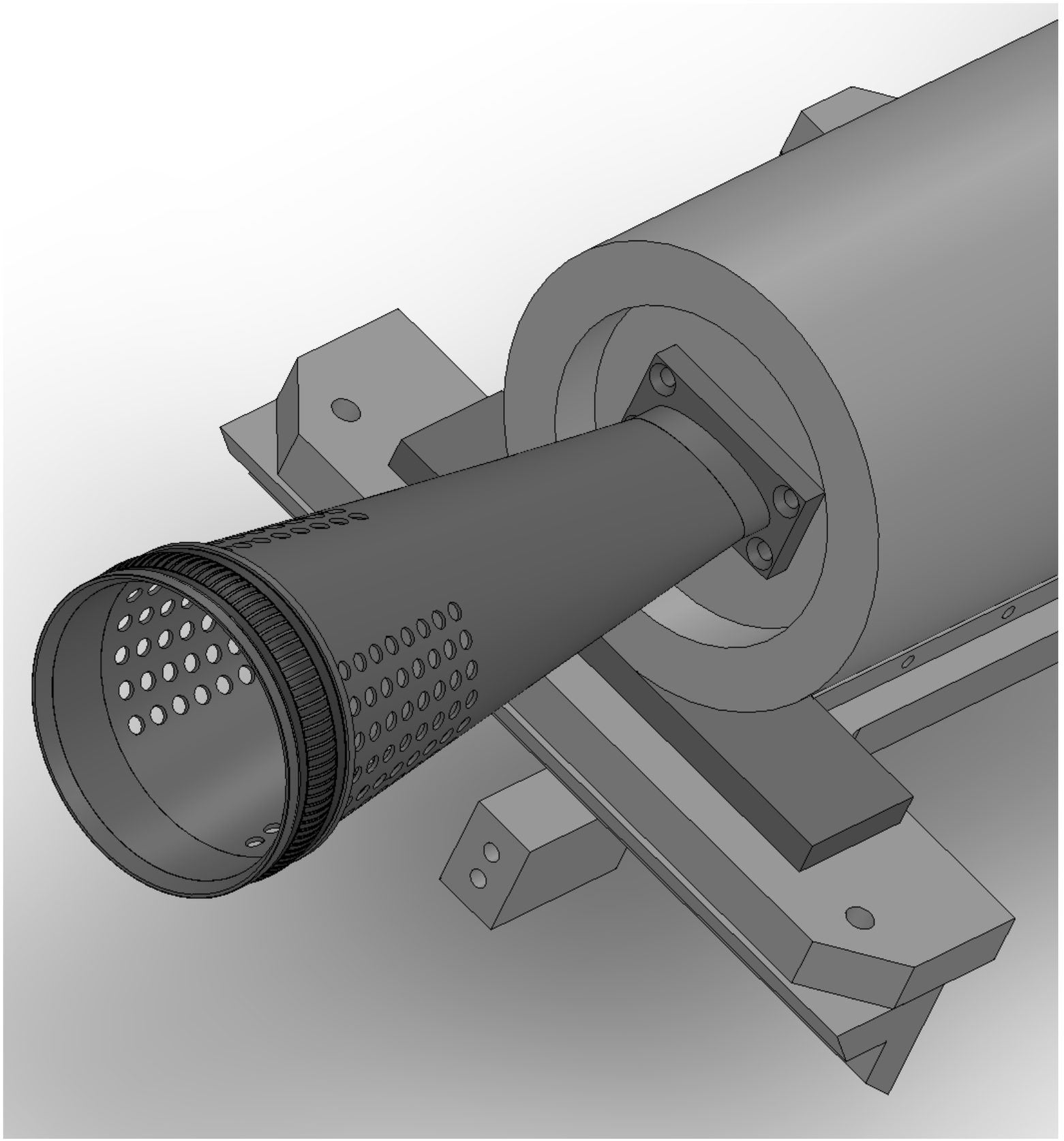
Improved Target Chamber Support



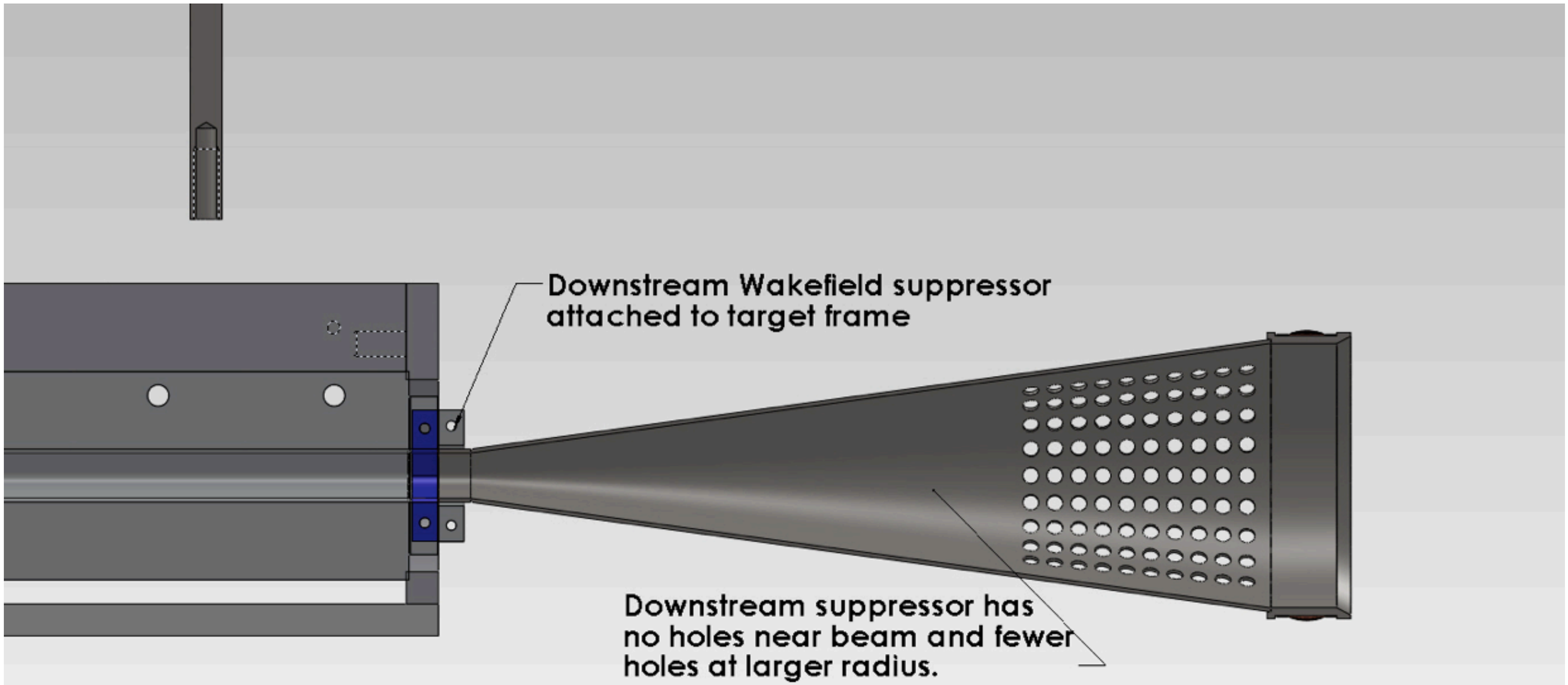
Wakefield Connected to Collimator



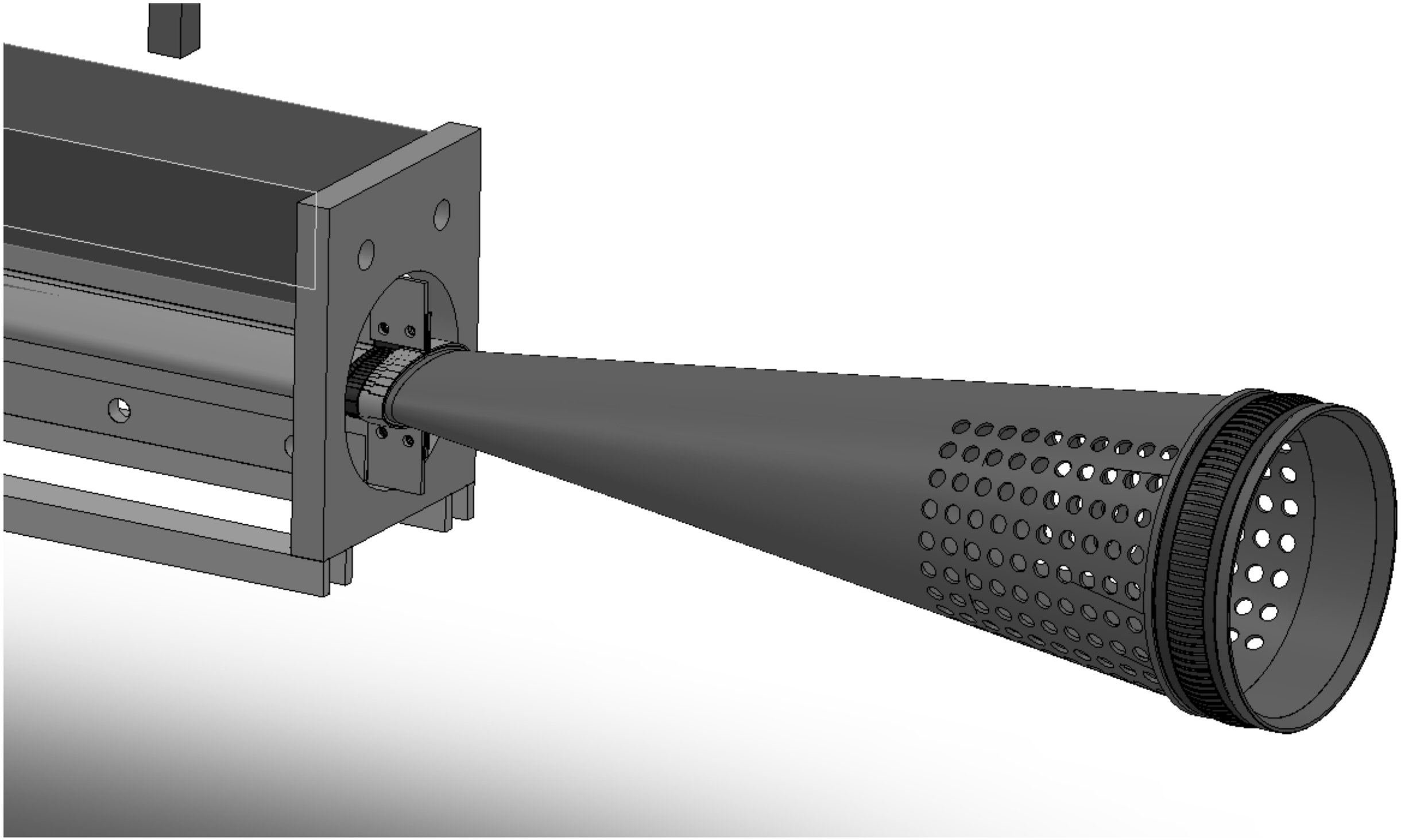
Improved Upstream Wakefield



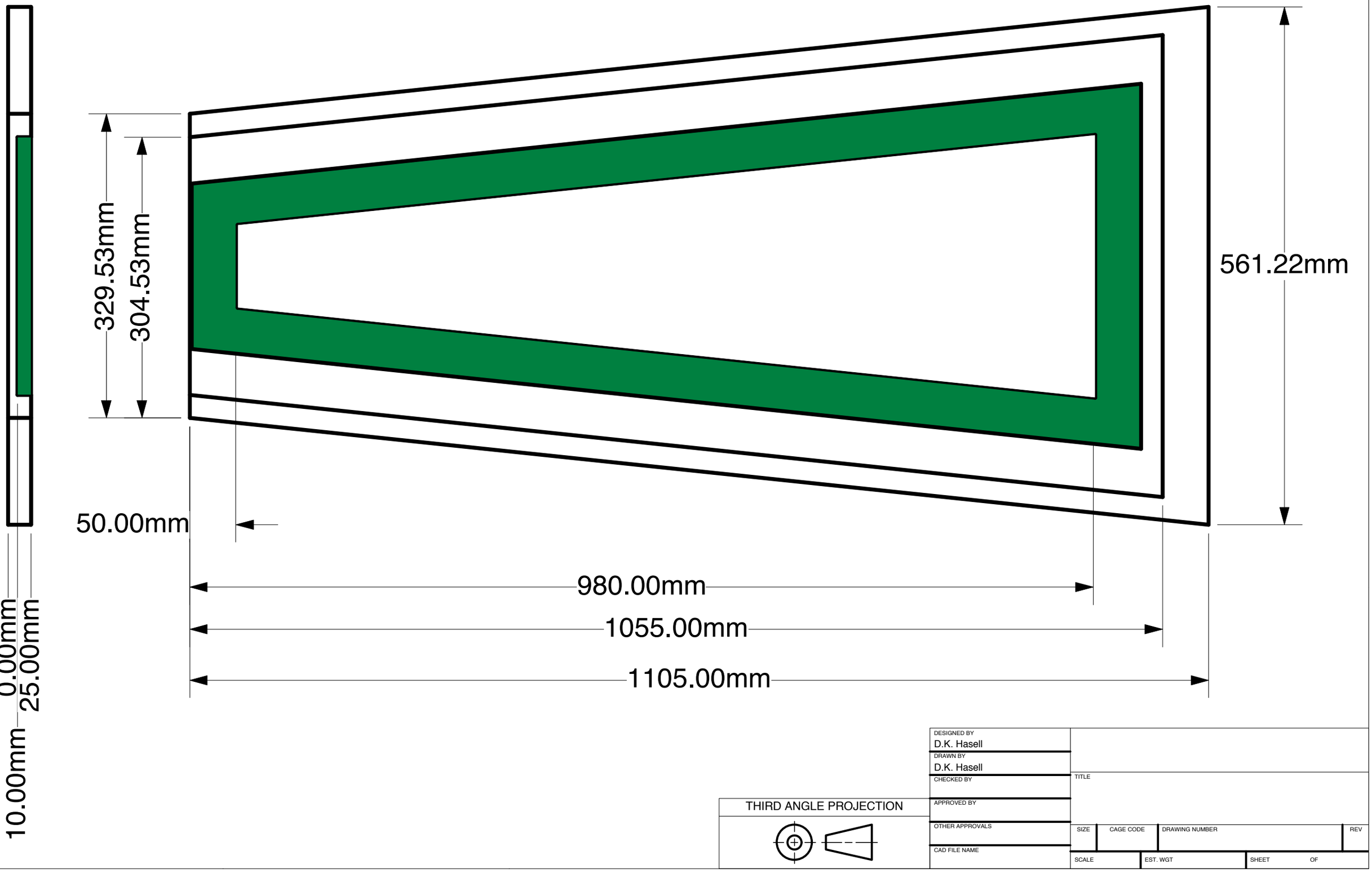
Wafefield Suppressor Downstream



Improved Downstream Wakefield



GEM Tracker Concept



DESIGNED BY	D.K. Hasell
DRAWN BY	D.K. Hasell
CHECKED BY	
APPROVED BY	
OTHER APPROVALS	
CAD FILE NAME	

THIRD ANGLE PROJECTION

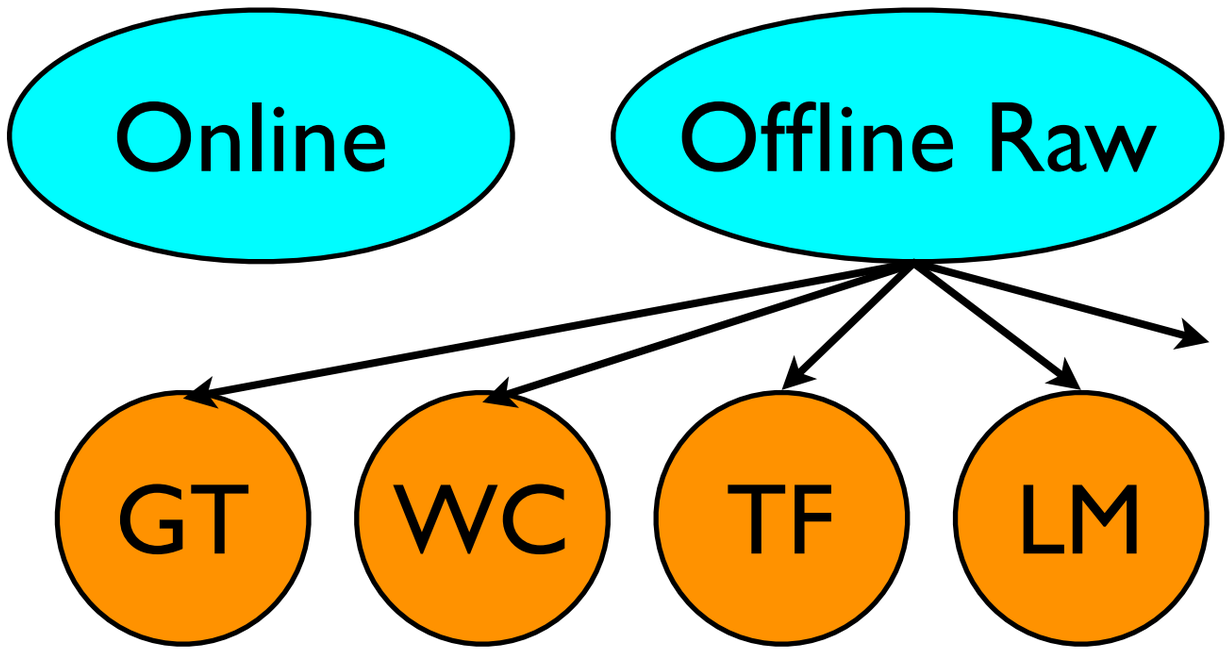
TITLE

SIZE	CAGE CODE	DRAWING NUMBER	REV
SCALE	EST. WGT	SHEET OF	

Online / Offline Analysis

Experiment

Raw Data



Experiment

- ADCs, TDCs, scalers, slow control data, trigger, DORIS parameters, etc.

Data Acquisition

- combines all data and writes to ZEBRA banks

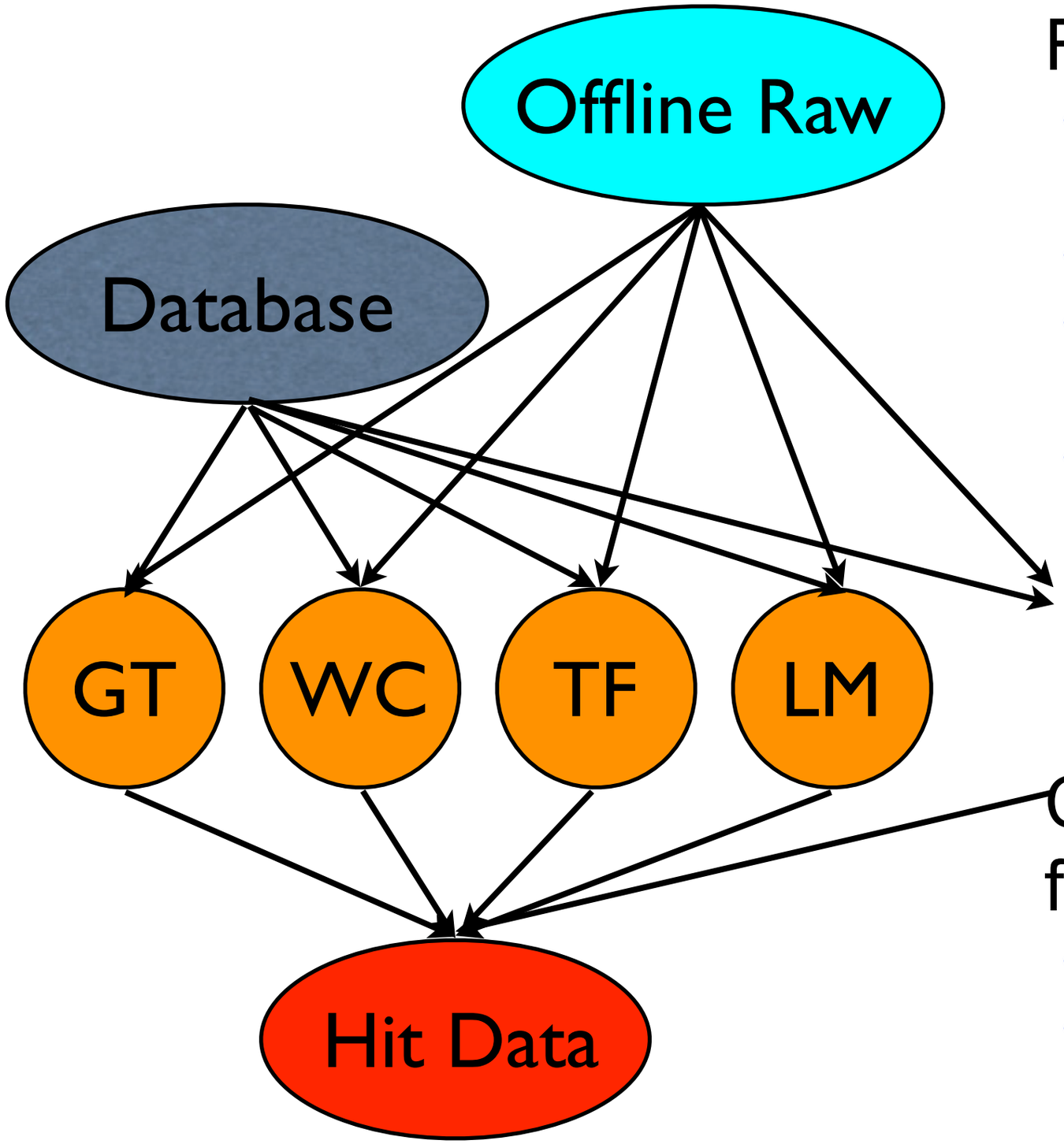
Offline raw

- re-write raw data as ROOT tree

Manage data

- pedestals, calibrations, cuts
- responsibility of each group
- run by run database

Online / Offline Analysis



Form hits in each detector

- apply cuts, pedestal subtraction, calibration
- zero suppression
- reduce raw data to collection of hits for each component
- responsibility of each group to provide this code

Combine data into ROOT file of hits

- same format as Monte Carlo
- reconstruction as MC

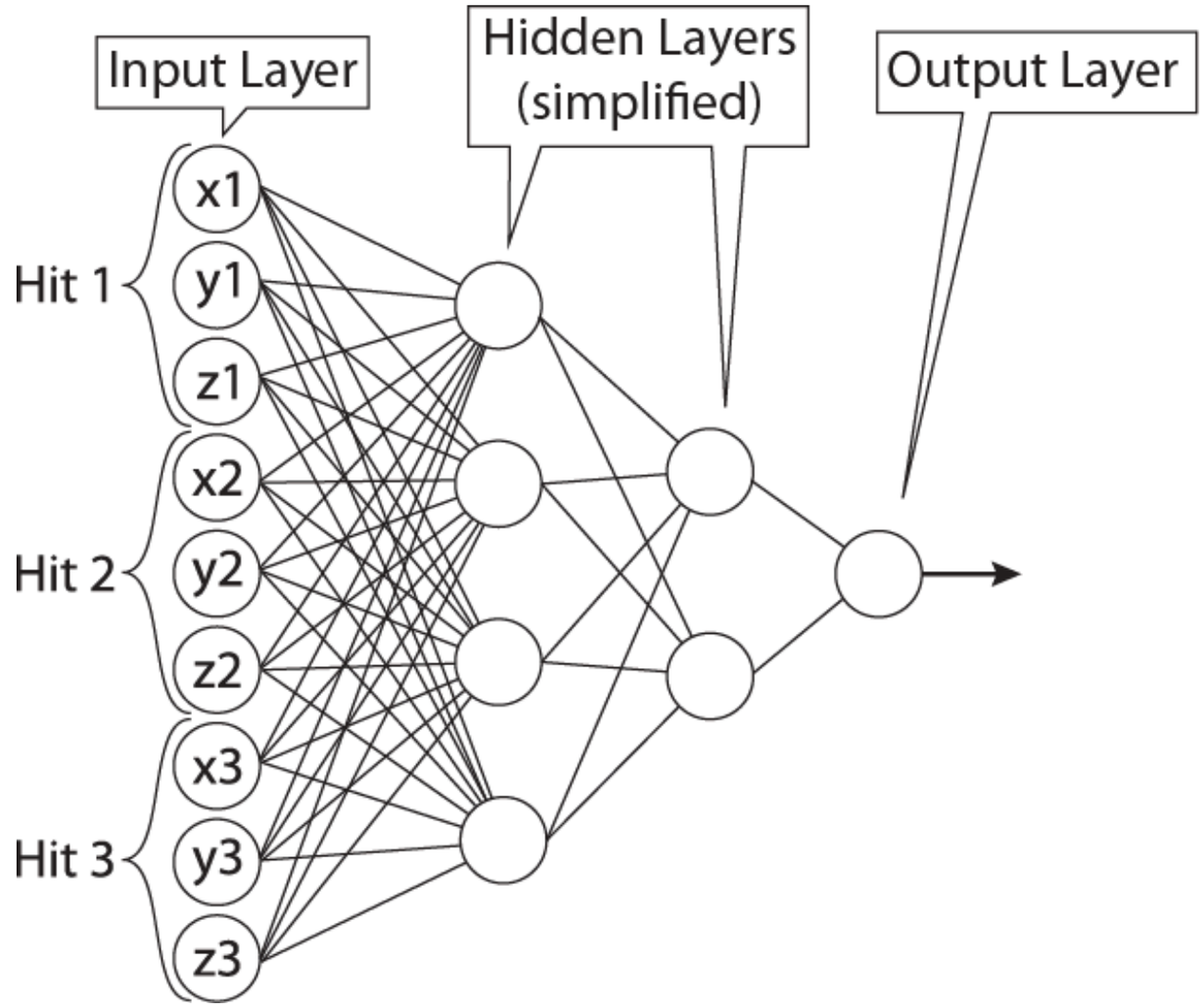
Monte Carlo

Based on GEANT4

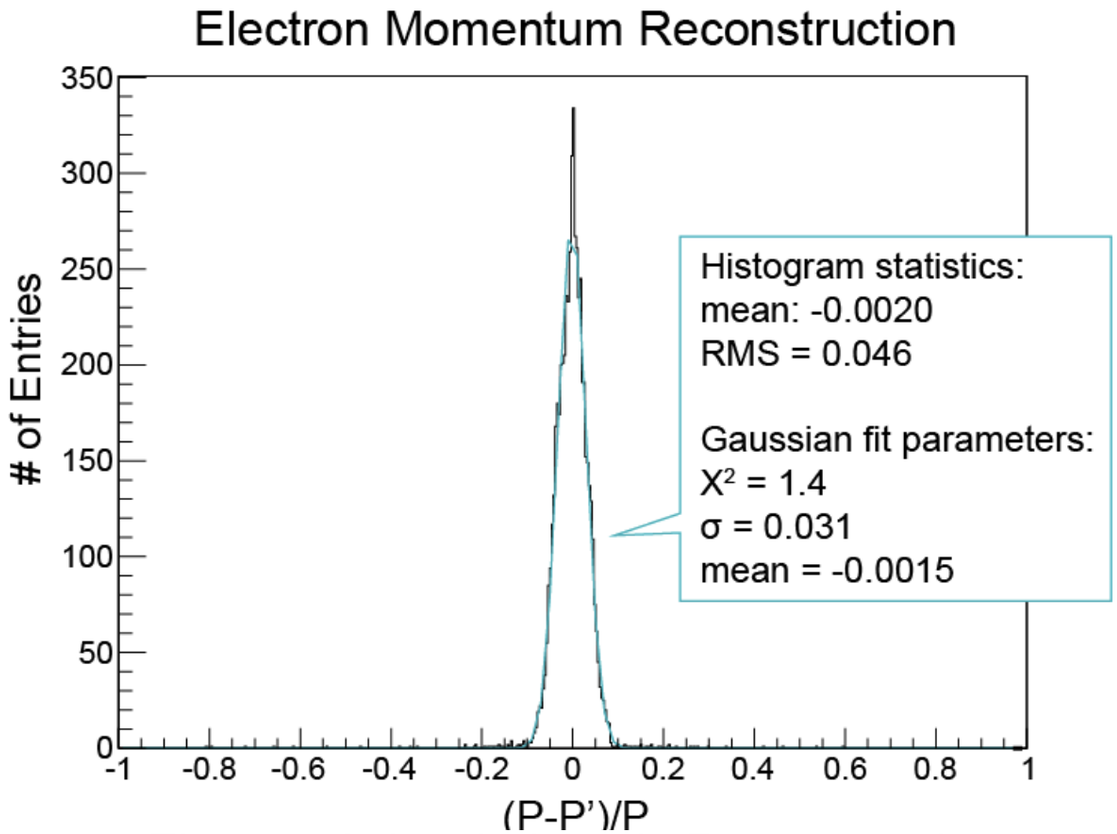
- all detectors fully simulated

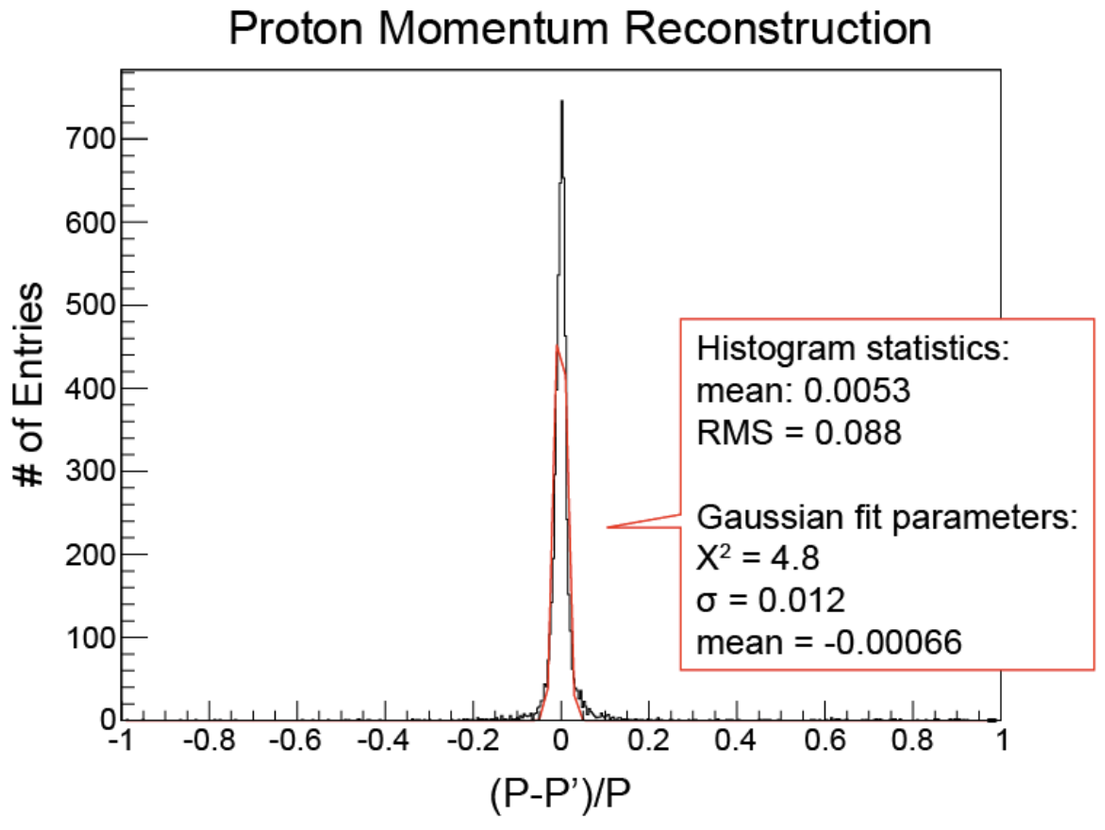
Track reconstruction

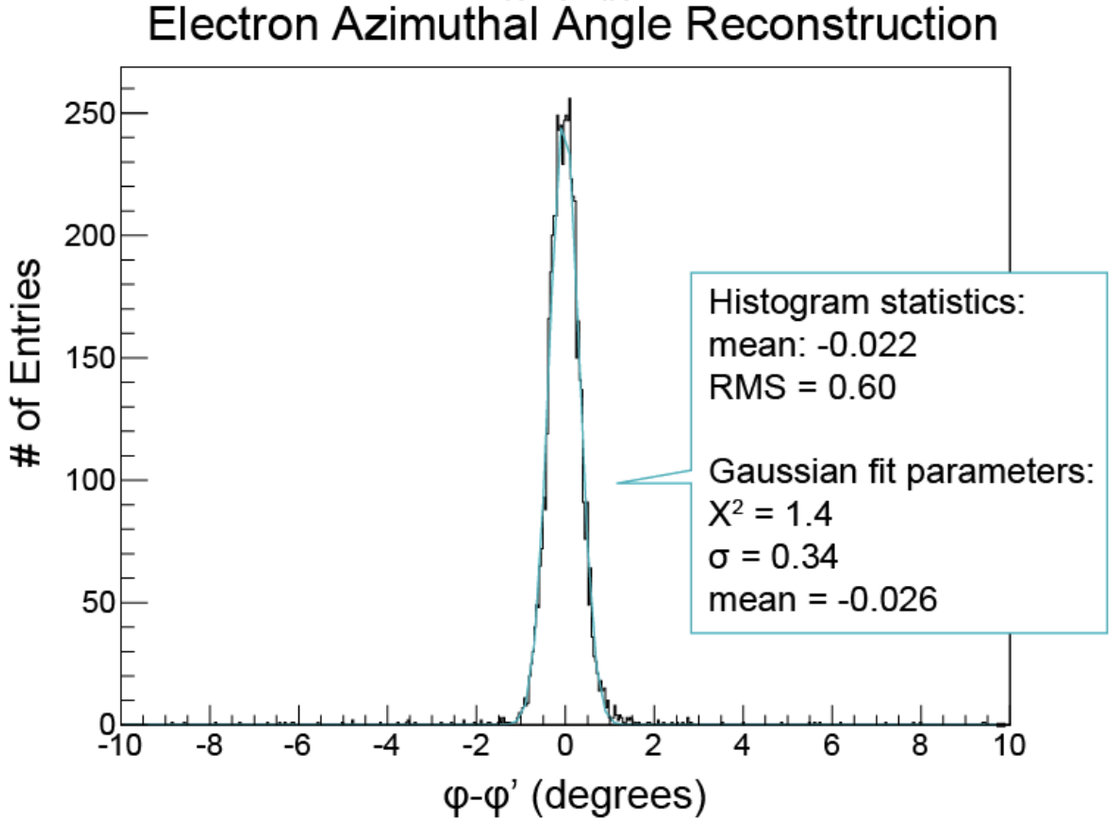
- neural network
- initial parameters for final fit

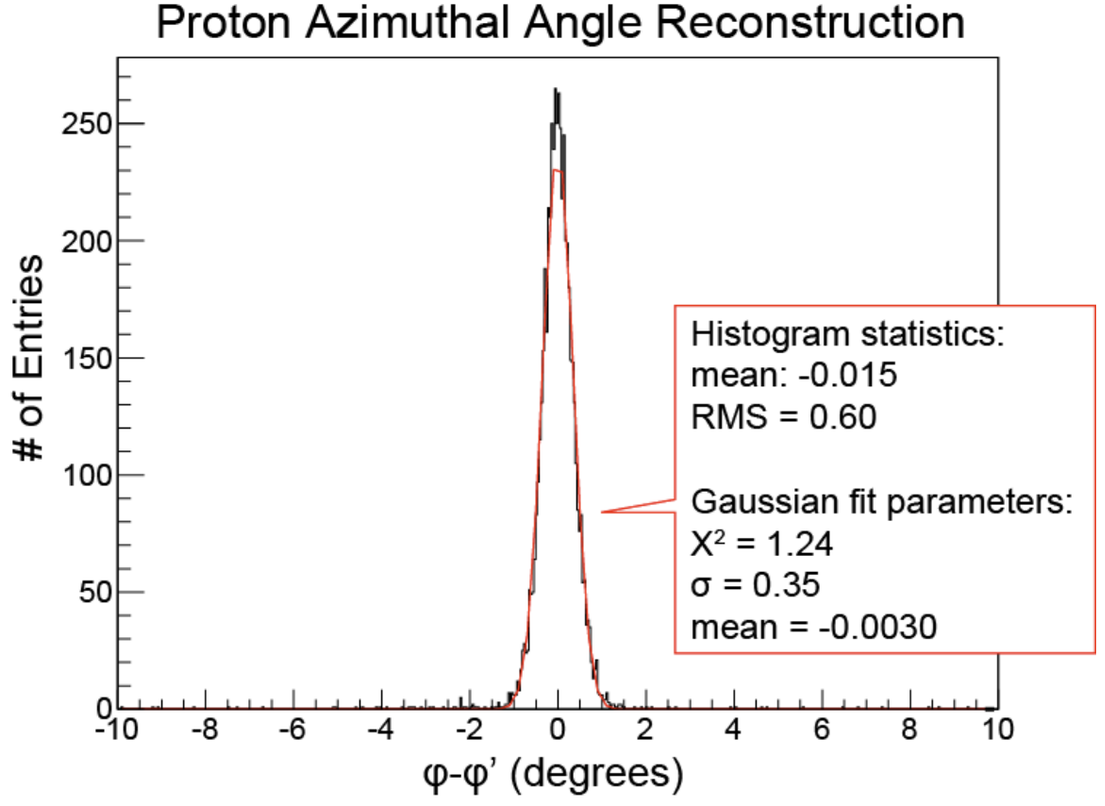


Momentum and Azimuth Resolutions

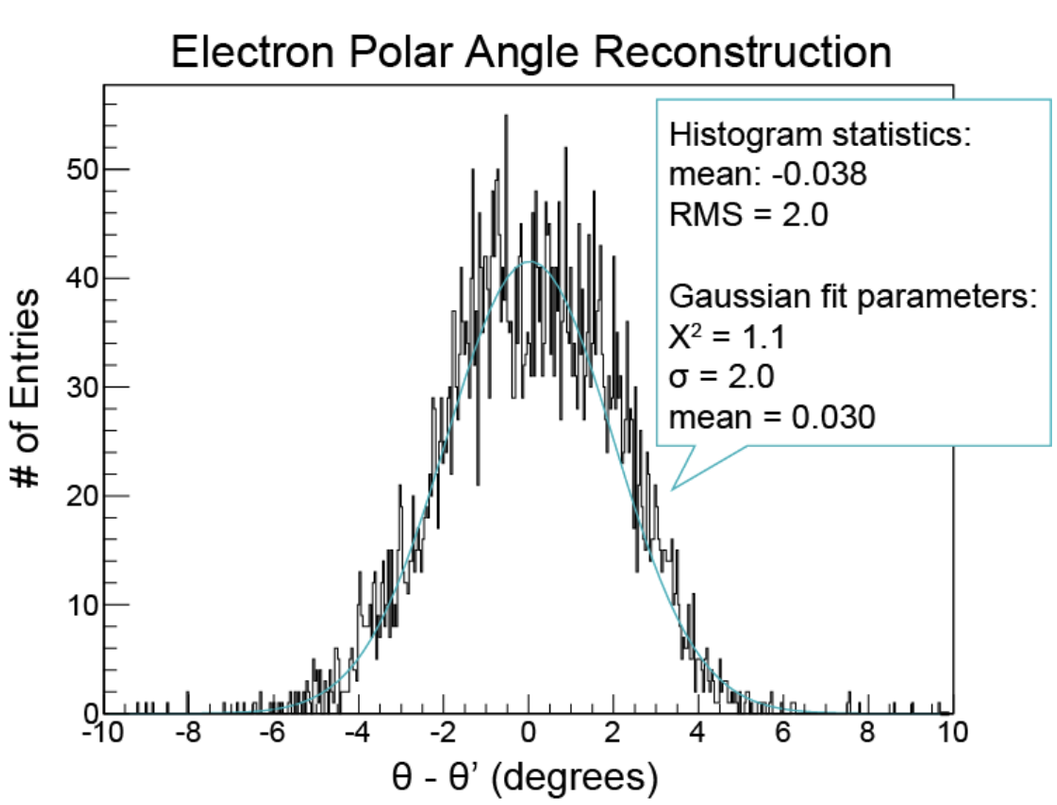


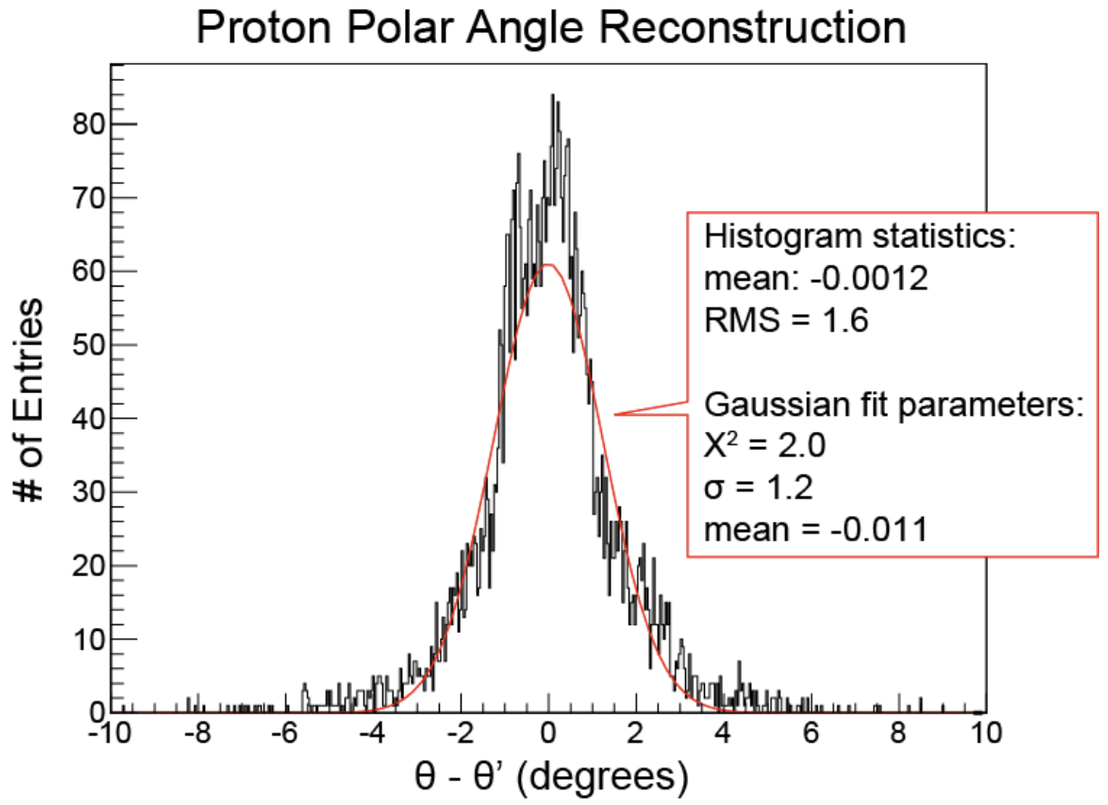


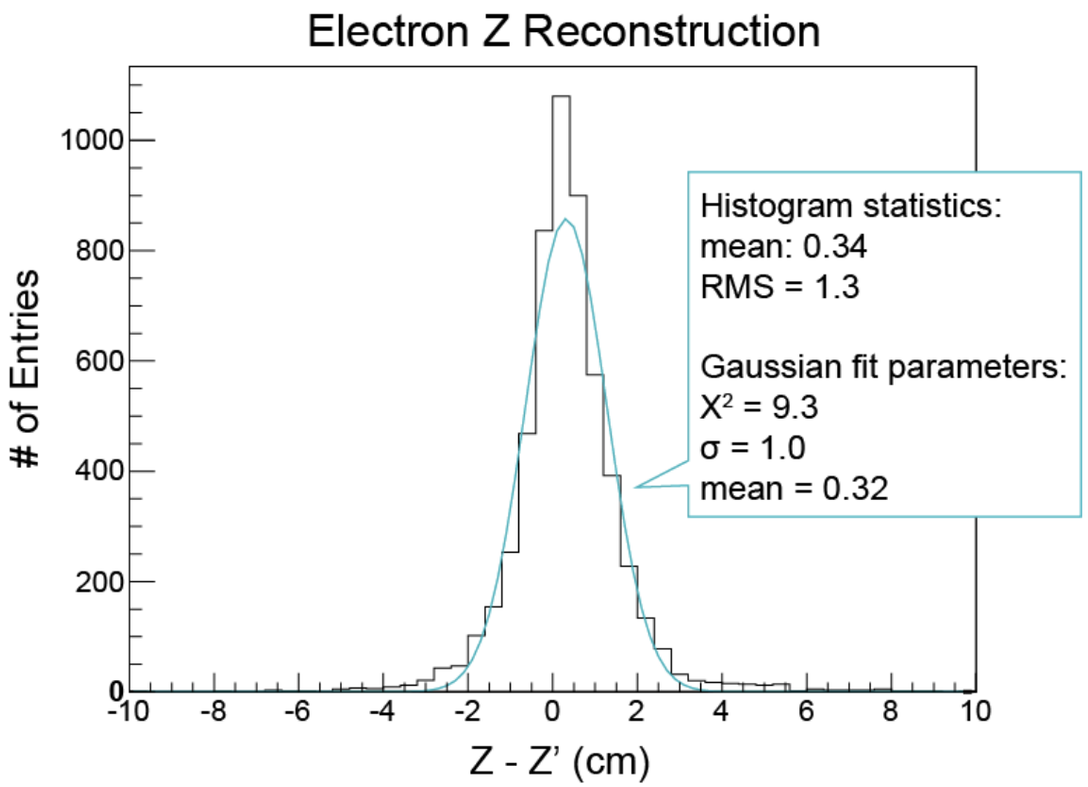


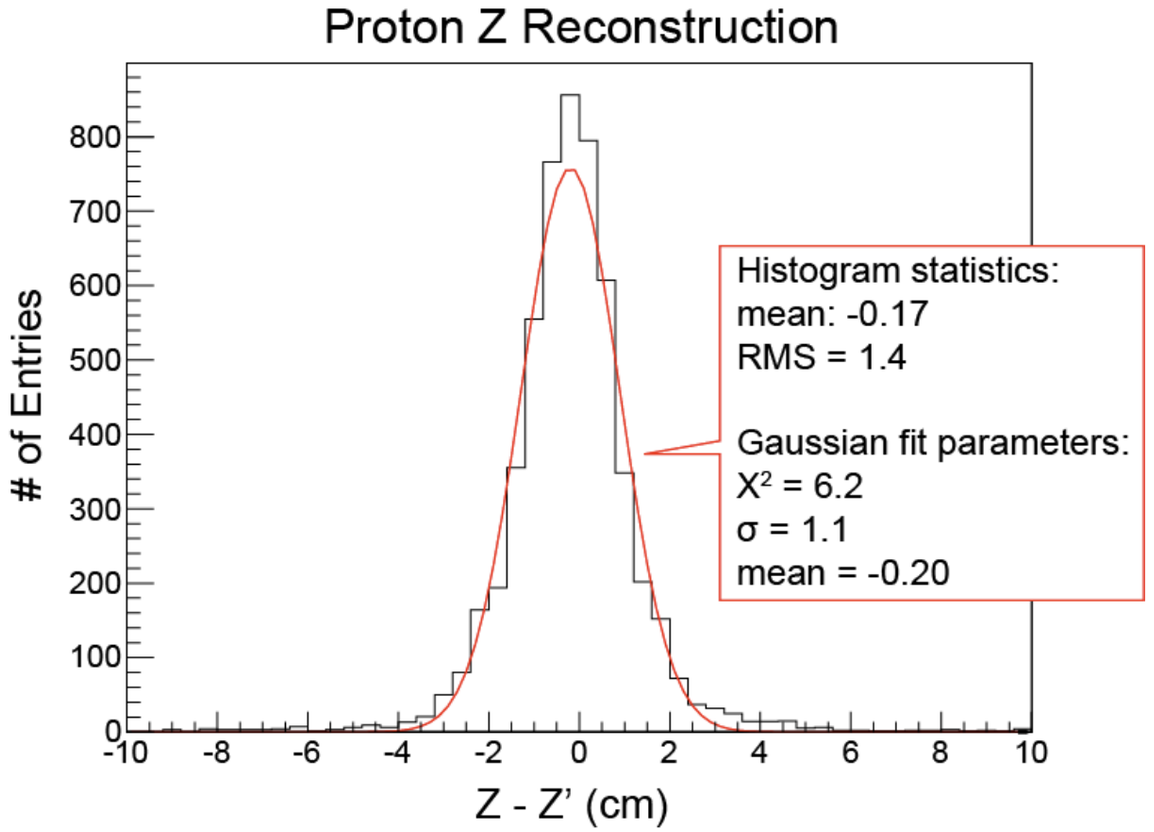


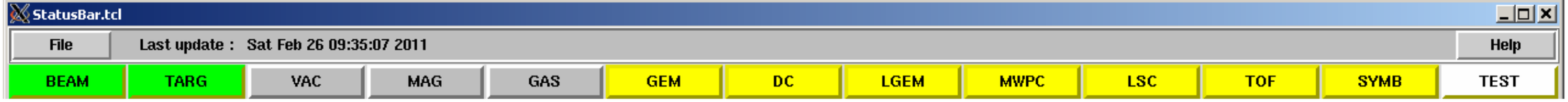
Polar and Vertex Resolutions

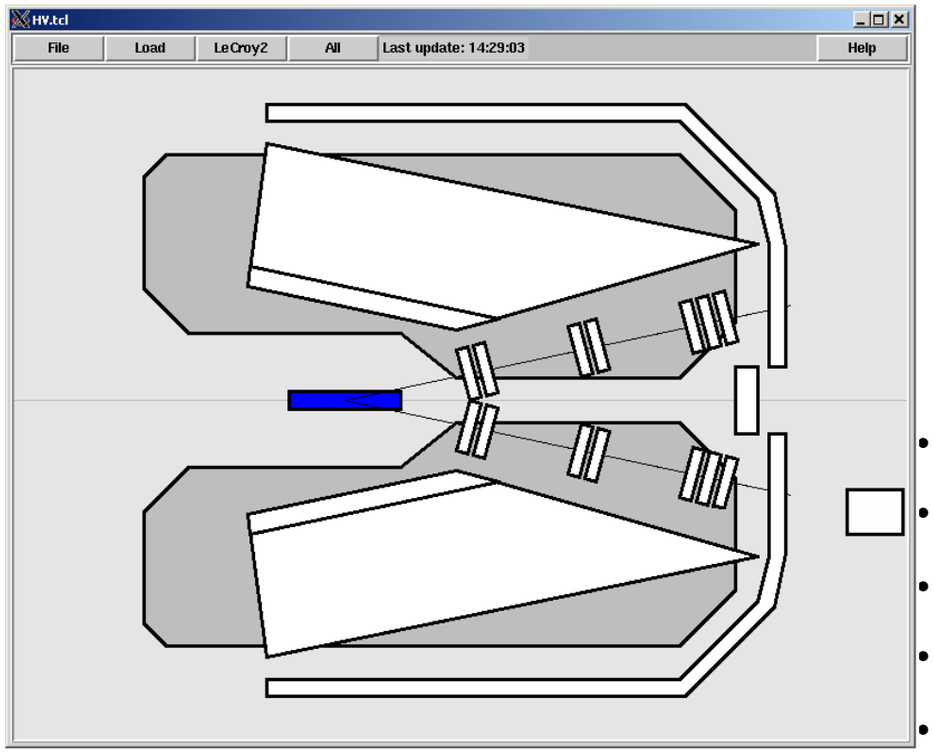






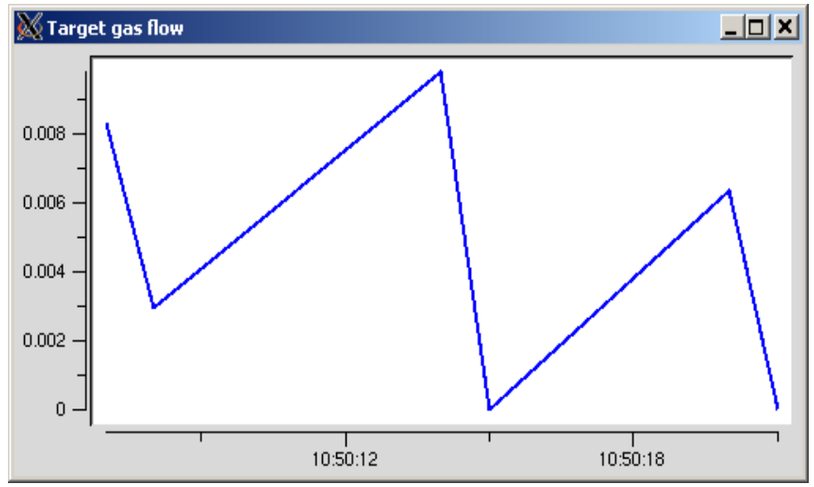


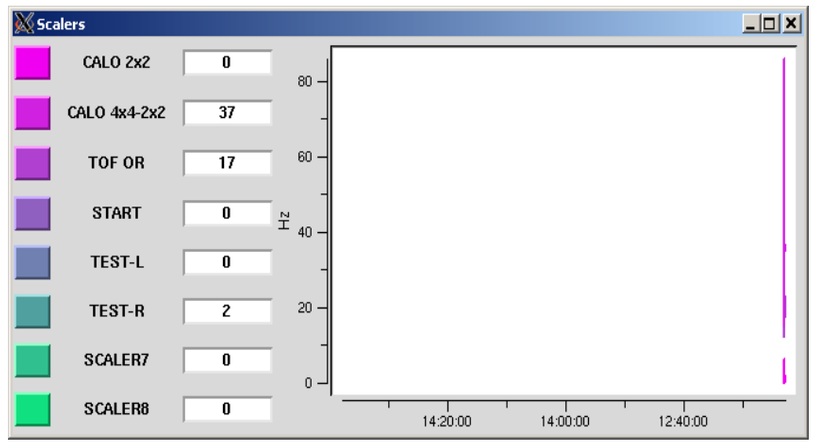


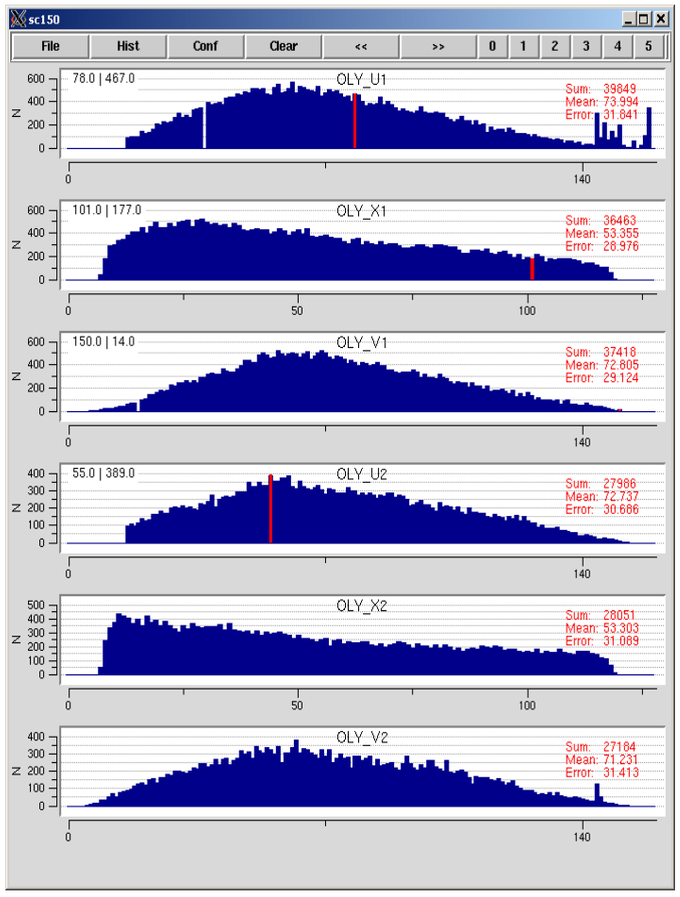


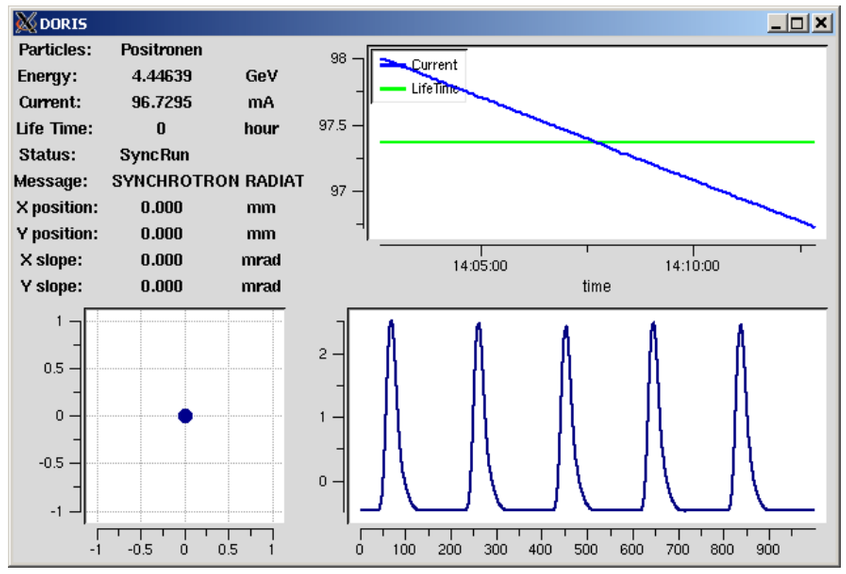
Slow Control Tasks

- **sb – Status Bar client,**
- **SB – Status Bar picture,**
- **hv – HV client for LeCroy,**
- **caen – HV client for CAEN,**
- **HV – HV picture,**
- **beam – TINE client for DORIS Globals,**
- **bunch – TINE client for beam structure,**
- **bpm – TINE client for BPM's,**
- **BEAM – beam picture,**
- **EPICS target software,**
- **targ – EPICS->StatusBar target status interface,**
- **TFLOW – Target gas flow time graph,**
- **SCAL – Scaler rates time graph,**
- **MWPC wiremaps.**





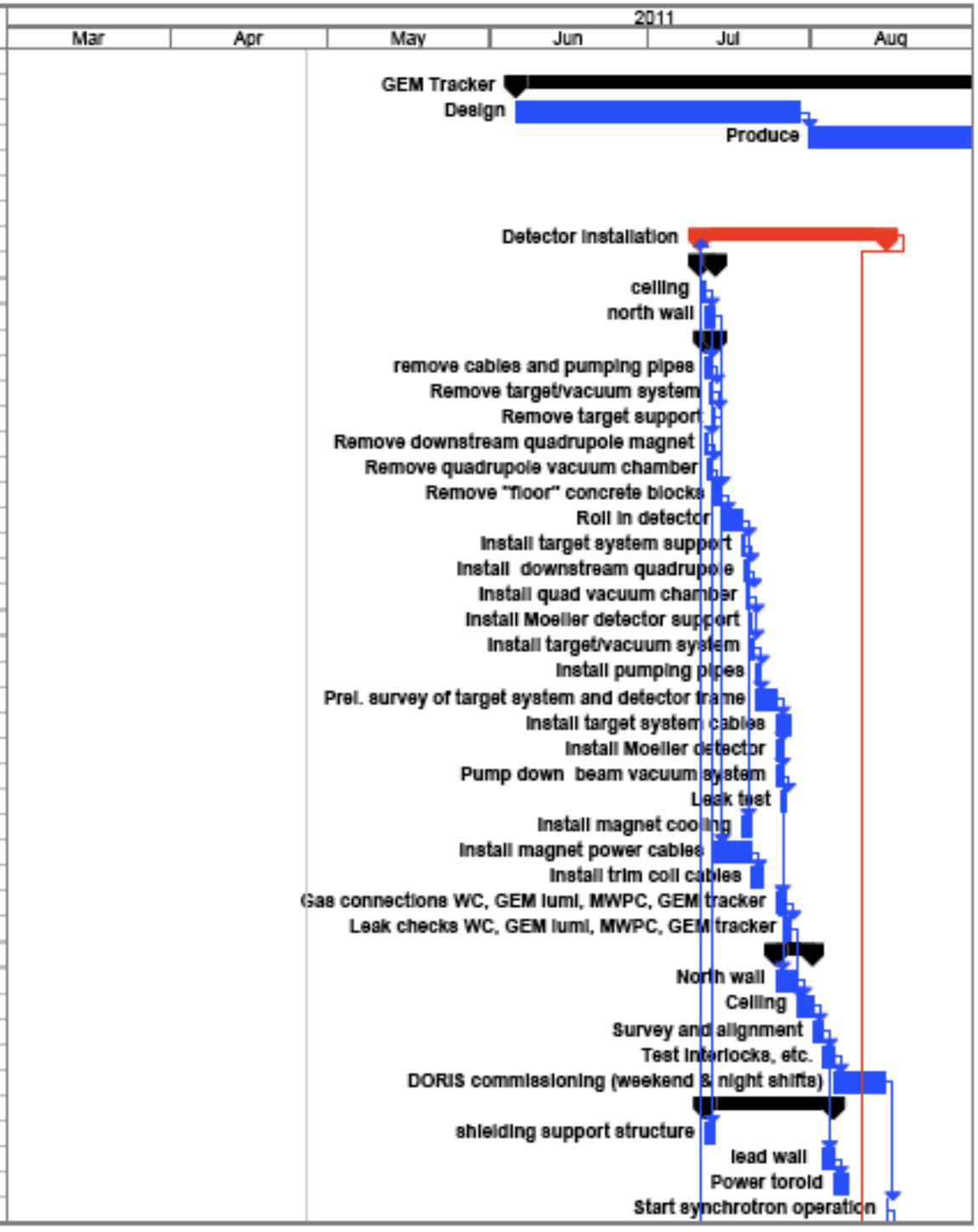




OLYMPUS Installation Schedule

OLYMPUS Schedule - Version 11
18.04.2011

ID	Task Name	Duration	Start	Finish
150				
151	GEM Tracker	140 days	Mon 06.06.11	Fri 16.12.11
152	Design	2 mons	Mon 06.06.11	Fri 29.07.11
153	Produce	3 mons	Mon 01.08.11	Fri 21.10.11
154	Test	4 wks	Mon 24.10.11	Fri 18.11.11
155	Pack and ship to DESY	4 wks	Mon 21.11.11	Fri 16.12.11
156				
157	Detector installation	25,63 days?	Mon 11.07.11	Mon 15.08.11
158	Remove shielding	3 days?	Mon 11.07.11	Wed 13.07.11
159	ceiling	1 day?	Mon 11.07.11	Mon 11.07.11
160	north wall	2 days	Tue 12.07.11	Wed 13.07.11
161	Remove OLYMPUS target/vacuum system	2 days	Tue 12.07.11	Wed 13.07.11
162	remove cables and pumping pipes	1 day	Tue 12.07.11	Tue 12.07.11
163	Remove target/vacuum system	4 hrs	Wed 13.07.11	Wed 13.07.11
164	Remove target support	4 hrs	Wed 13.07.11	Wed 13.07.11
165	Remove downstream quadrupole magnet	4 hrs	Tue 12.07.11	Tue 12.07.11
166	Remove quadrupole vacuum chamber	4 hrs	Tue 12.07.11	Tue 12.07.11
167	Remove "floor" concrete blocks	1 day?	Thu 14.07.11	Thu 14.07.11
168	Roll in detector	2 days	Fri 15.07.11	Mon 18.07.11
169	Install target system support	4 hrs	Tue 19.07.11	Tue 19.07.11
170	Install downstream quadrupole	4 hrs	Tue 19.07.11	Tue 19.07.11
171	Install quad vacuum chamber	4 hrs	Wed 20.07.11	Wed 20.07.11
172	Install Moeller detector support	4 hrs?	Wed 20.07.11	Wed 20.07.11
173	Install target/vacuum system	1 day?	Wed 20.07.11	Thu 21.07.11
174	Install pumping pipes	1 day?	Thu 21.07.11	Fri 22.07.11
175	Prel. survey of target system and detector frar	2 days	Thu 21.07.11	Mon 25.07.11
176	Install target system cables	3 days	Mon 25.07.11	Thu 28.07.11
177	Install Moeller detector	1 day?	Mon 25.07.11	Tue 26.07.11
178	Pump down beam vacuum system	1 day?	Mon 25.07.11	Tue 26.07.11
179	Leak test	1 day?	Tue 26.07.11	Wed 27.07.11
180	Install magnet cooling	2 days	Tue 19.07.11	Wed 20.07.11
181	Install magnet power cables	5 days	Thu 14.07.11	Wed 20.07.11
182	Install trim coil cables	2 days	Thu 21.07.11	Fri 22.07.11
183	Gas connections WC, GEM lumi, MWPC, GEI	2 days	Mon 25.07.11	Wed 27.07.11
184	Leak checks WC, GEM lumi, MWPC, GEM tra	1 day?	Wed 27.07.11	Thu 28.07.11
185	Setup shielding	5 days?	Mon 25.07.11	Mon 01.08.11
186	North wall	4 days	Mon 25.07.11	Fri 29.07.11
187	Ceiling	1 day?	Fri 29.07.11	Mon 01.08.11
188	Survey and alignment	2 days	Mon 01.08.11	Wed 03.08.11
189	Test interlocks, etc.	2 days	Wed 03.08.11	Fri 05.08.11
190	DORIS commissioning (weekend & night shift	6 days	Fri 05.08.11	Mon 15.08.11
191	Lead shielding wall	18,5 days	Tue 12.07.11	Fri 05.08.11
192	shielding support structure	2 days	Tue 12.07.11	Wed 13.07.11
193	lead wall	2 days	Wed 03.08.11	Fri 05.08.11
194	Power toroid	1 day?	Fri 05.08.11	Mon 08.08.11
195	Start synchrotron operation	1 hr	Mon 15.08.11	Mon 15.08.11



Project: OLYMPUS_11
Date: Wed 27.04.11

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone