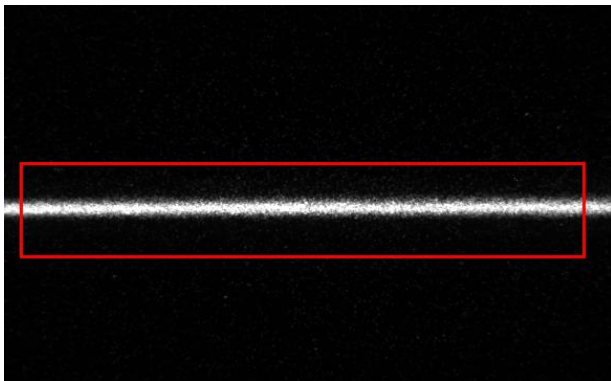


Cockcroft update

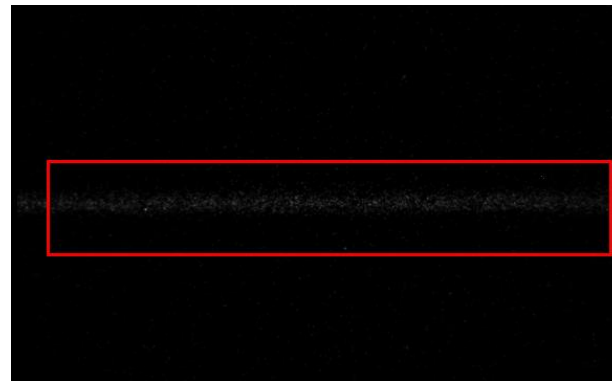
Residual gas test (only Nitrogen)

- Nitrogen

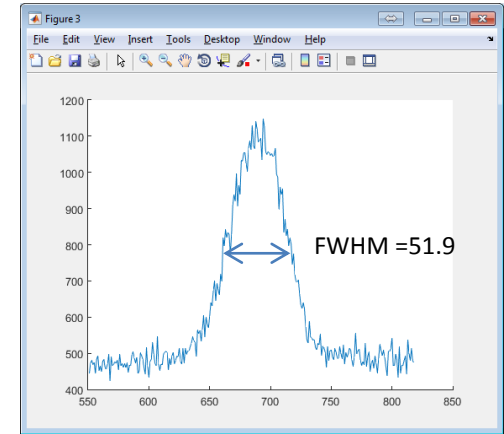
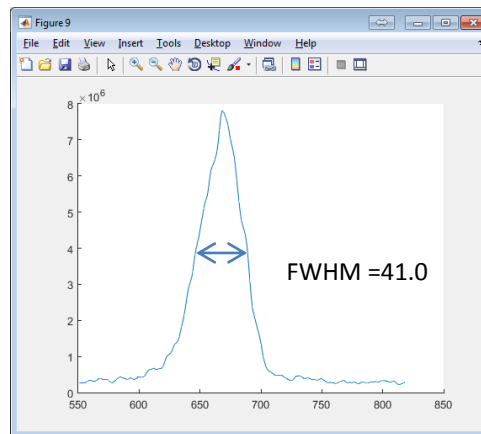
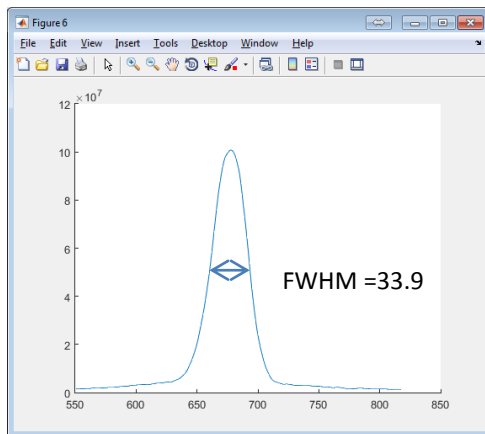
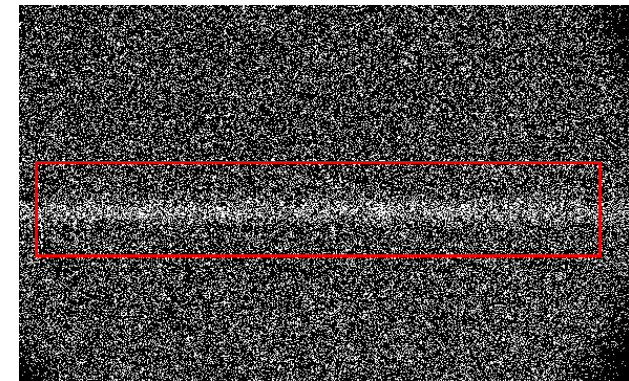
2s



2s



2000s



Filament burned after Nitrogen test

- (Last Thursday) Tried to install the spare one, but found out the spare one is not working.
- The E-gun supplier sent new filament (Monday), expect to received it today.

E-gun

Company	Omicron	Henniker Scientific	SPECS	Thermoscientific
E-gun	No	No	No	No

Company	Oregon-Physics	STAIBInstruments	FerroTec
E-gun	Waiting	Waiting	Waiting

Company	RBD Instruments	Tetra	Scanwel (UK)
E-gun	modified 10-155 CMA electron gun*	EGG3001 EGG3103 Kimball physics	EGG3001 EGG3103 Kimball physics
Cost	\$6400	Same as Serban	Under quotation

*comment: Later found out the gun provide 1-2 mA emission current, which is not necessarily the target current

All the search is done by A. Salehilashkajani.

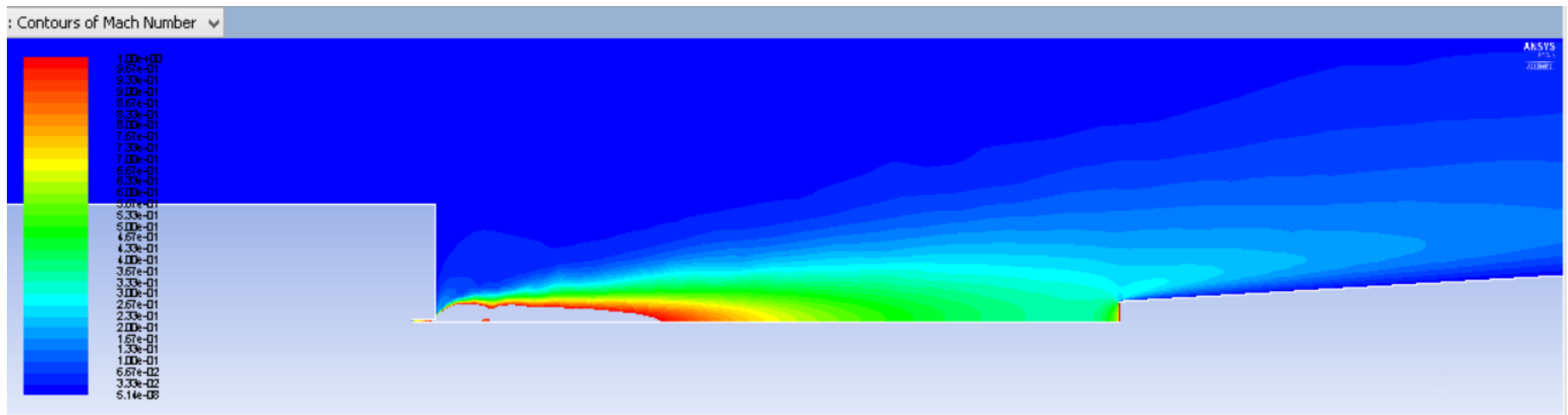
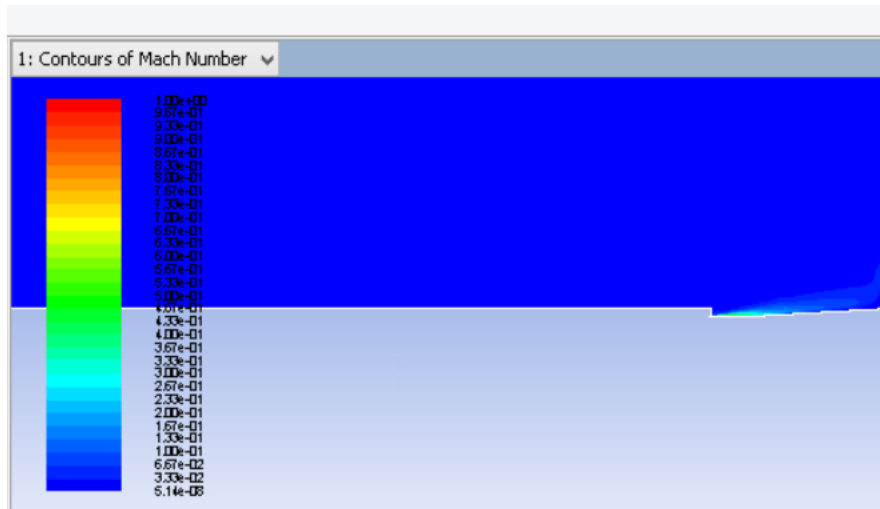
EEG3103

- Found a colleague here (from vacuum group) using this gun, good feedback from them, but borrowing the gun seems very hard.
- I have their manual in hand.

Status of the second setup

- The nozzle holder and skimmer holder will be ready by next week.
- Hope to assemble the setup before Christmas.
- Turbo pumps status? (CERN)
- Target and scintillating screen? (GSI)

Simulation using Fluent



Plans to do

- After the filament is back, try to redo the residual gas images with both Nitrogen and Neon under the same condition (pressure, electron beam)
- Measure the gas jet density distribution.
- Measure the gas jet density vs inlet pressure.
 - Need to be approved to increase the pressure over 10 bar.