Mechanical Structure for FST

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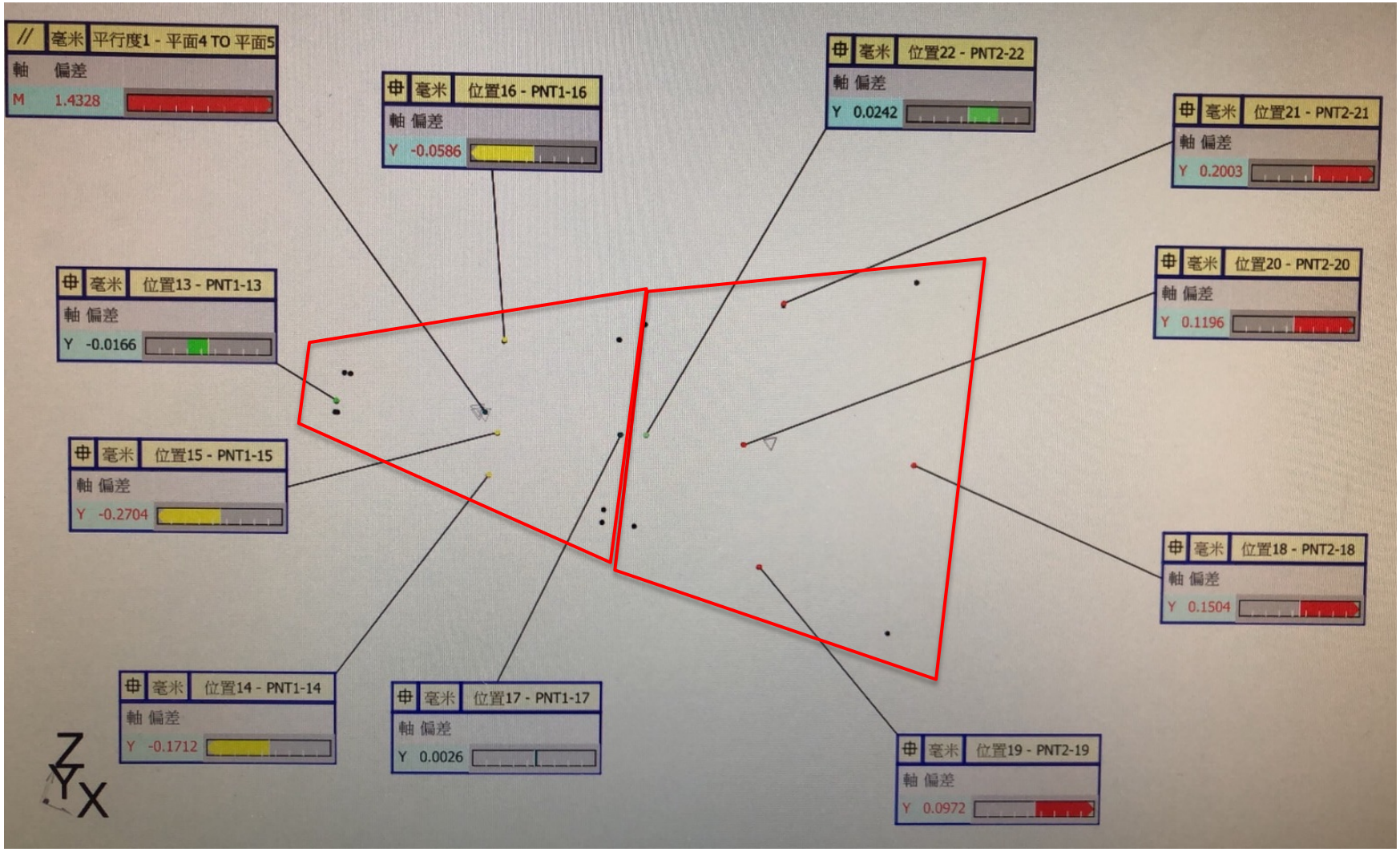
First Prototype

- Finished in 1/30/2020 (hybrids from new vender)
- Second prototype will be finished on Wednesday, measured by Friday

First Prototype

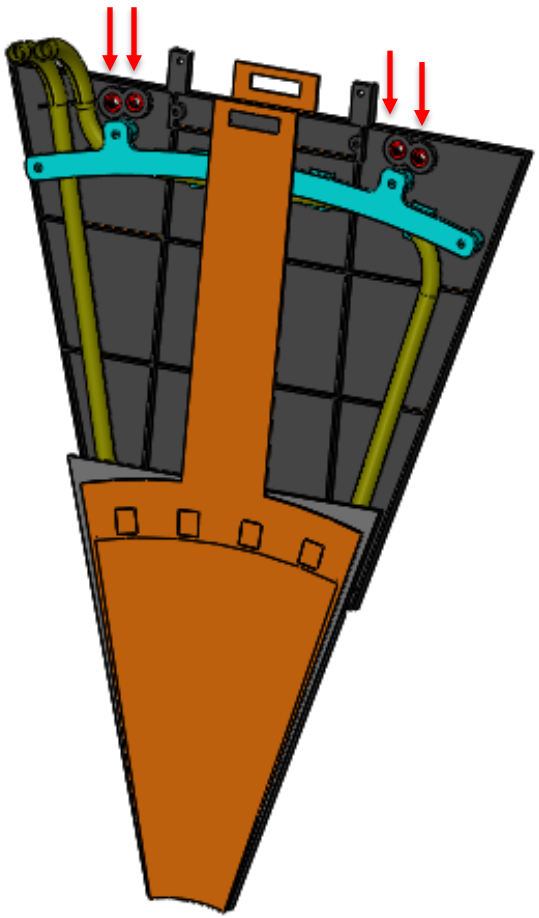
- Using the “mechanical” gauge to measure the flatness



Question for Yi from last week

Q: How are the wedges fixed to the supporting structure, which holes on the mechanical structures will be used?

A: **Use the 4 M4 screws**



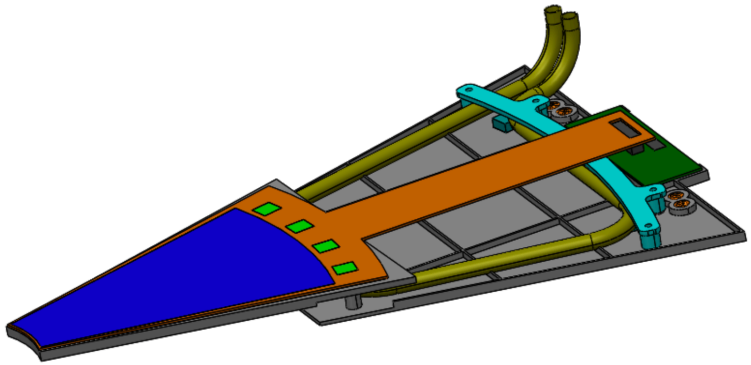
Question for Yi from last week

Q: Is the estimated radiation length on FST_agml_01_27_2021.pdf slide 5 reasonable?

A: **YES.**

New Design - Radiation Length

	Main Structure	Heat Sink	Tube
Material	PEEK	Aluminum	Stainless steel
Thickness (mm)	2.27	2.18	1.63
Material budget (X_0)	0.9% X_0	2.5% X_0	9.3% X_0



- http://personalpages.to.infn.it/~tosello/EngMeet/ITSmat/SDD/PPS.html
- http://pdg.lbl.gov/2009/AtomicNuclearProperties/HTML_PAGES/013.html
- www-physics.lbl.gov/~gilg/.../Material/Radiation%20Lengths%20Last.doc

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Question for Yi from last week

Q: Is the estimated weight per disk on slide 5 reasonable?

A: **3.44 kg per disk ➔ 0.287 kg per wedge**

We measured one wedge

“outer + inner + tube + hybrids” ~ 0.16 kg