

Nikhef Velo production meeting: 04/01/2021

# Discussion items

- CO2 cooler: repair this week (see next slide)
- damaged VCR connectors of bare module N023?
- transport DCB test samples to Jan
- Gitlab status manual/checklists
- production planning this week
- deployment of “Jig B”

# CO2 system and module testing

- Huber repair tomorrow
  - how quickly before we can operate it again?
- we have a large backlog on module testing
  - how can we most efficiently recover from that?
  - as we can have only 2 people at a time in the clean room, should we reserve all afternoons for testing?
- proposal: build 1 module per week until we have recovered from most of testing backlog

# module status

- see spreadsheet at:

[https://docs.google.com/spreadsheets/d/1aQUv3\\_9Cp1Wo5tmCbe4lyL7TXjcZVb4F1SLHjV4-ZqY/edit?usp=sharing](https://docs.google.com/spreadsheets/d/1aQUv3_9Cp1Wo5tmCbe4lyL7TXjcZVb4F1SLHjV4-ZqY/edit?usp=sharing)

Nikhef module production status									
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fx									
	A	B	C	D	E	F	G	H	I
1		bare module	tiles	hybrids	wire bonded	electr. tests	therm cycling	electr. tests	grade
2	N013	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
3	N014	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4	N016	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5	N017	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6	N018	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7	N019	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8	N020	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
9	N022	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
10	N023	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
11									

# production planning this week

- wirebonding of N020 and N022
- finish as much as we can for module N023

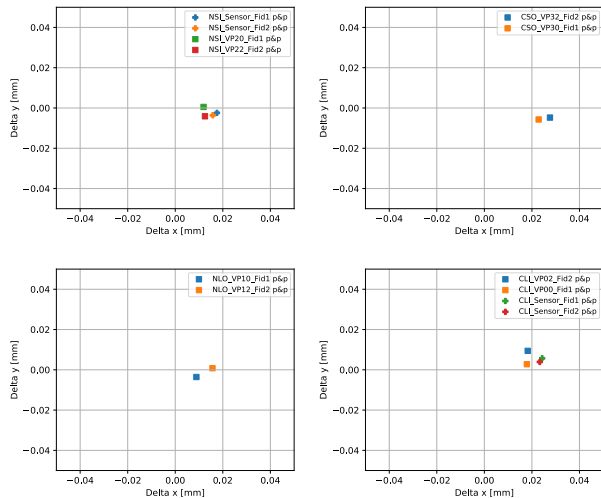
<https://calendar.google.com/calendar/u/0?cid=NHZtOXNyamQ1MDdhNGxncTV0bmxyOHUwa2dAZ3JvdXAuY2FsZW5kYXluZ29vZ2xlLmNvbQ>

# jig for tile placement

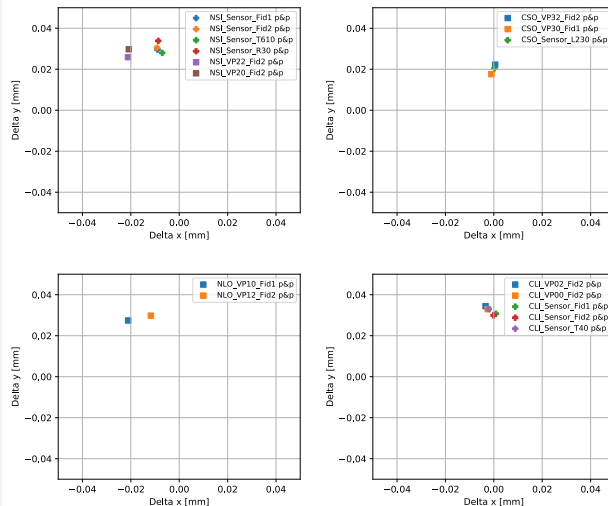
- advantage of new jig (“jig B”)
  - fits module also after full production
  - does not have problem with module tilt that other jig has (“jig A”)
- why are we not yet using it?
  - cannot reproduce ‘metrology’ results obtained with jig A
    - $\Delta x = \sim -25$  micron,  $\Delta y = \sim +10$  micron
  - jig alignment relies on measurements by Martijn
  - systematic analysis difficult
    - asking Martijn for new measurements takes time
    - finished modules do no longer fit jig A so we cannot redo old measurements
- plan?
  - build another module with jig A
  - measure in jig B and again in jig A before placing hybrids
  - not sure if we can do anything without Martijn remeasuring both jigs

# Tile marker displacement N007

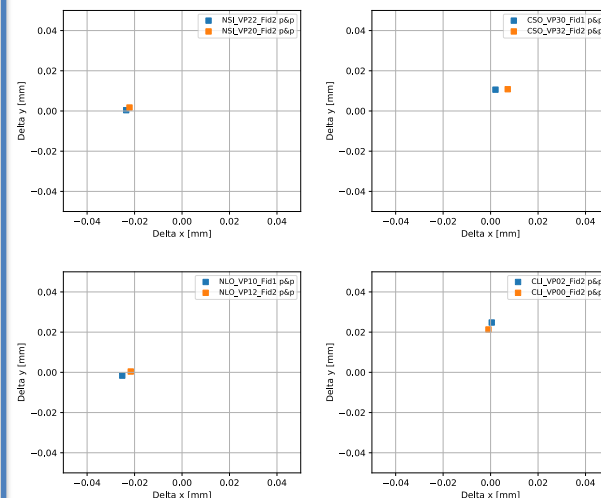
## Jig A



## Jig B



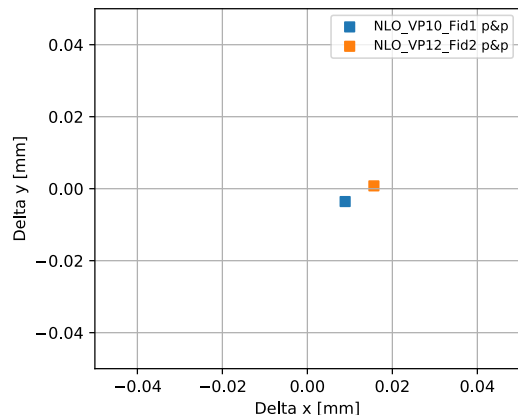
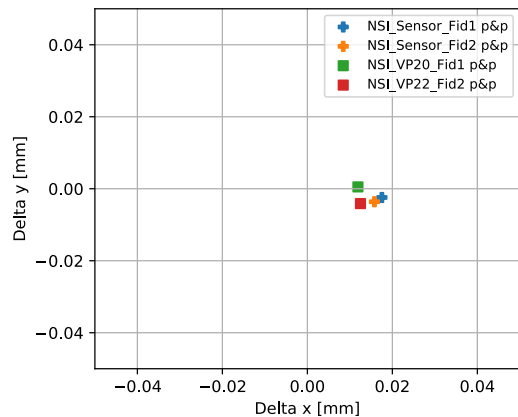
## Zeiss



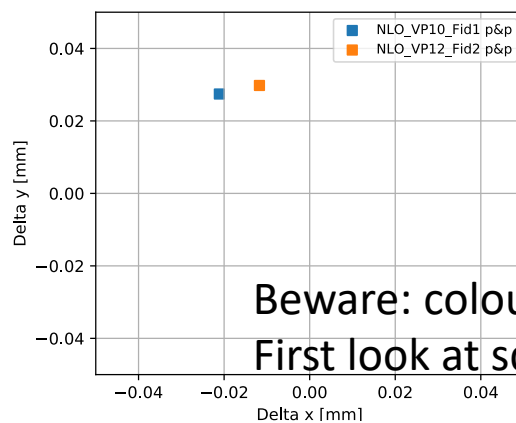
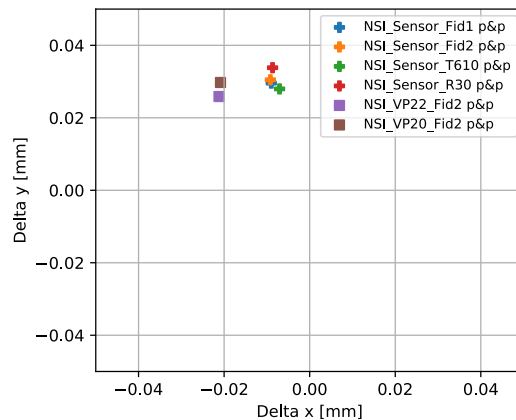
Beware: colour coding a bit messed up.  
First look at square markers only.

# Tile marker displacement N007

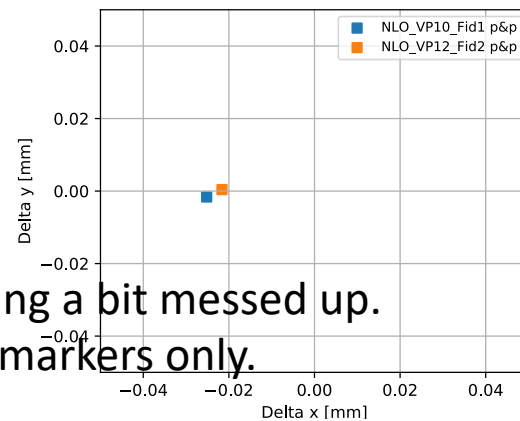
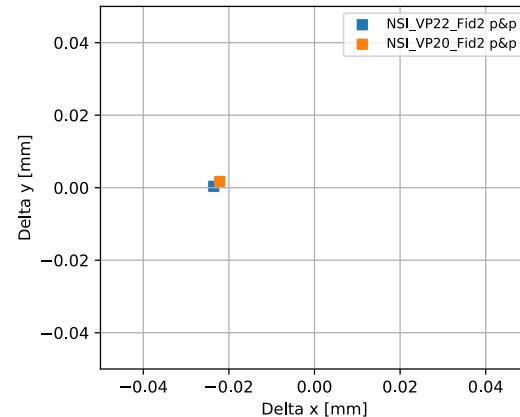
Jig A



Jig B



Zeiss

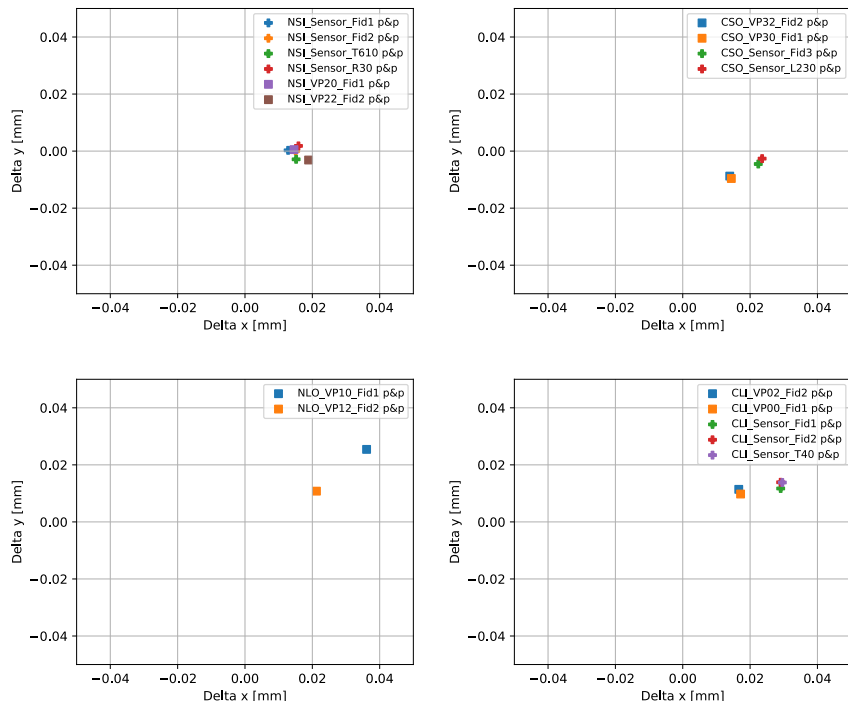


Beware: colour coding a bit messed up.  
First look at square markers only.

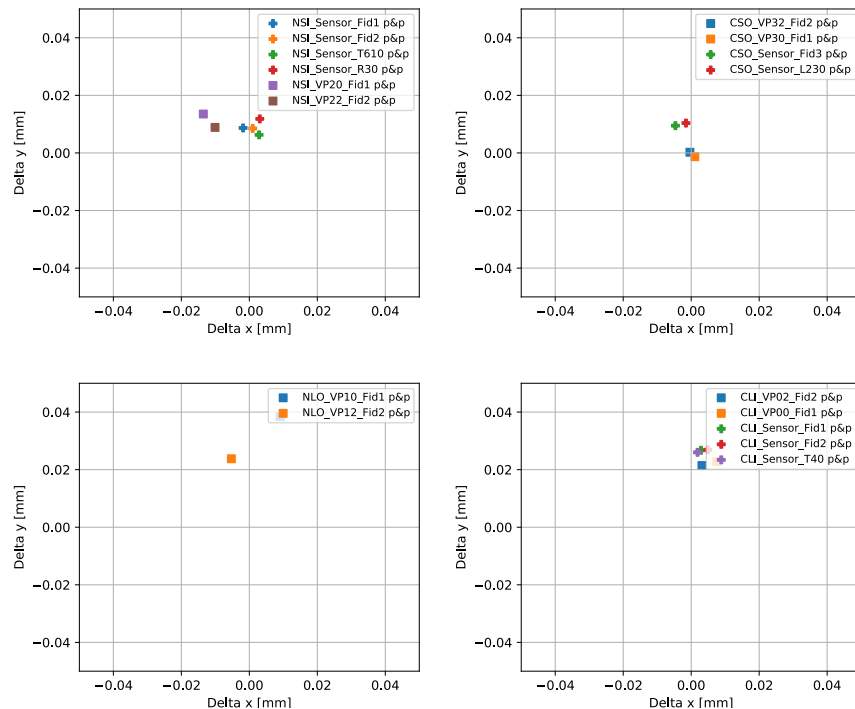


# Tile marker displacements N022

## Jig A



## Jig B



- Jig A and jig B are inconsistent in both X (-25 micron) and Y (+10 micron)
- Zeiss and jig A are reasonably consistent in Y but not in X
- Zeiss and jig B are reasonably consistent in X but not in Y
- the differences between jig A and jig B are not the same for module N007 and N022. there even seem to be differences between the tiles
- not clear what to do but we have no good reason to assume that jig A is better understood than jig B
  - ask Martijn to measure again jig A, jig B and one module?