



PÉPITES DE LA SEMAINE

Semaine 19



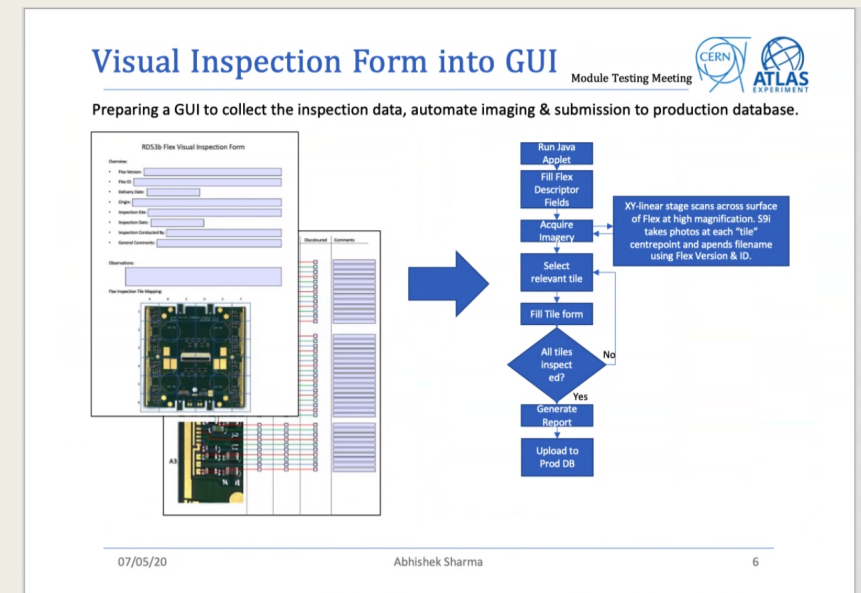
Electronics : mercredi 6 – 17h <https://indico.cern.ch/event/916772/>

- Revue des test de Serial Powering RD53 par Florian H. (Bonn) : ont des problèmes de connectique et du mal à les comprendre (longue discussion sur ce qu'il a pu mesurer, regarder, toucher etc)

Modules plenary : jeudi 7 – 17h <https://indico.cern.ch/event/882703/>

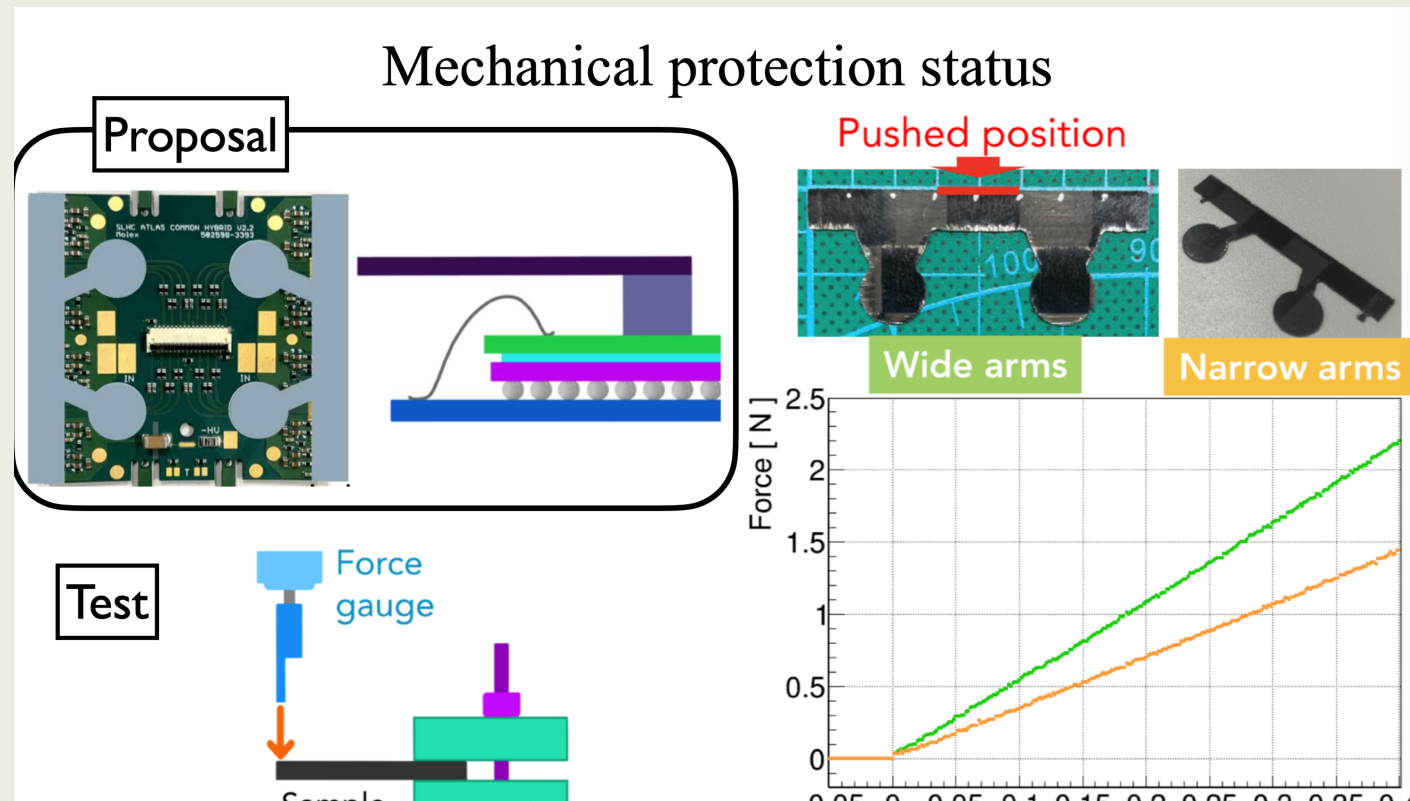
Talk du groupe CERN sur leur équipement de « Visual inspection » des flex hybrides.

- Il ressort de la discussion qu'une fois le wire-bonding fait il faut plus de profondeur de champ et qu'il a déjà été décidé dans le « testing meeting » une caméra suffit + les sites d'intégration n'iront pas aussi loin.
- MAIS que leurs efforts pour développer un GUI avec des cases prédigérées est très intéressant et pourrait être utile. Dommage que ça soit en java alors que tous les scripts sont en python (sic)



Ai fini par retrouver présentation du schéma dans réunion Modules du 2 avril

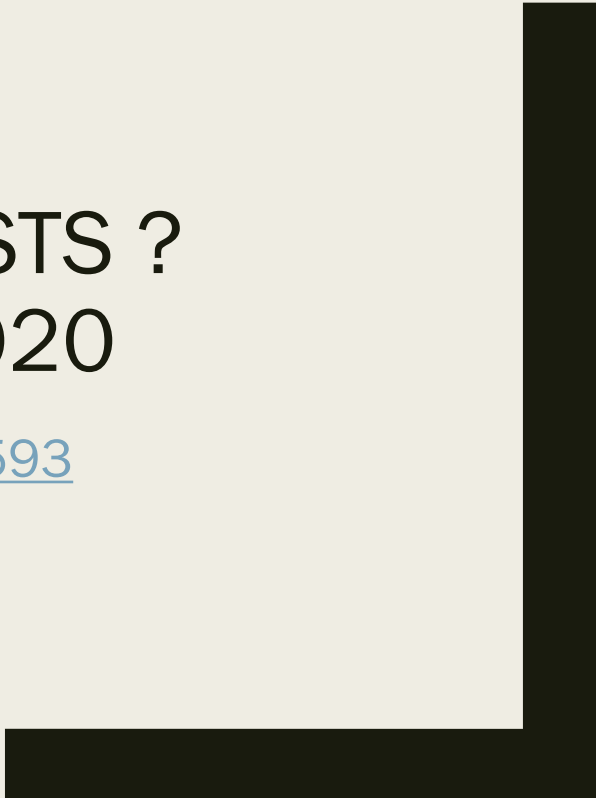
<https://indico.cern.ch/event/882698/> talk "wirebond protection" par M.Togawa, p5





EQUIPEMENT POUR TESTS ? SEMAINE ITK - FEV 2020

<https://indico.cern.ch/event/824593>



Tooling for RD53A module build & test -- Meeting pixel modules semaine ITK de février (mer 9h)

https://indico.cern.ch/event/824593/contributions/3734134/attachments/1982075/3301330/Tooling_status_update_ITK_week_Magne_Lauritzen.pdf

We have roughly the same needs as for the final production: We will use the RD53A module production to evaluate the tools and get valuable experience.

Assembly:

- Gluing stencils
- Assembly jigs
- Data cables
- Powering
- Module carriers

Testing:

- Cooling
- DAQ/DCS system
- Interlock system
- Power boards
- Data boards

Common:

- Photographic documentation
- Shipping box

This talk will try to list all items, their status, and who is responsible for it.



All items for RD53A module production are either ready or being taken care of.

Item	Status as of 4 th February 2020	Contact person
Gluing stencils	Done, distributed at Itk week	Manabu Togawa
Assembly jigs	Done, a few being distributed at Itk week	Joern Lange
Data cables	Done, distributed	Saverio D'Auria
Powering	To be determined	
Module carriers	Done and distributed for Quads. (Triplet carriers to be produced)	Magne Lauritzen
Cooling	Many designs exists, common cooling unit might be produced.	Magne Lauritzen
DAQ/DCS	HW specifications and recommendations exists. Software under development.	Minoru Hirose
Interlock system	Some specifications done, to be determined	Lingxin Meng
Power boards	To be produced and distributed.	Minoru Hirose
Data adapter boards	Done for Quads, to be distributed. No design for triplets.	Minoru Hirose
Photographic documentation	Hardware recommendations exists, software under development.	Shohei Shirabe
Shipping boxes	To be determined	Richard Plackett



Photographic documentation

Modules must be imaged before and after each production and testing step → ~20 pictures per module. See [QC document](#) for more details.

Suggested options:

- Digital camera with simple jig for repeatable alignment
- CCD flatbed scanner with focal point modification (<https://indico.cern.ch/event/883823/>)

Images must be annotated with metadata:

- | | | |
|-----------------|-----------------------------|------------|
| • Module ID | • Production / testing step | • Operator |
| • Date and time | • Institute | • Etc. |



Some studies on image quality with camera has been done:

https://indico.cern.ch/event/871927/contributions/3677283/attachments/1963849/3264944/Man_17_12_19_Indico.pdf

- Images to be manually inspected, using software tools for assistance.
- After inspection and annotation, the images are uploaded to the production database.
- Image format, metadata tags, and other details to be defined.
- Adam Ruby (U. Liverpool) and Shohei Shirabe (Tokyo Institute of Technology) has agreed to collaborate to have this software ready for RD53A production.
- Professional photographer and ITk member Massimiliano Antonello can be contacted for photography expertise.

Contact person: Shohei Shirabe



2/5/2020

ITk Week, Magne Lauritzen

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