Status Report of KAGRA Detchar in KGWG

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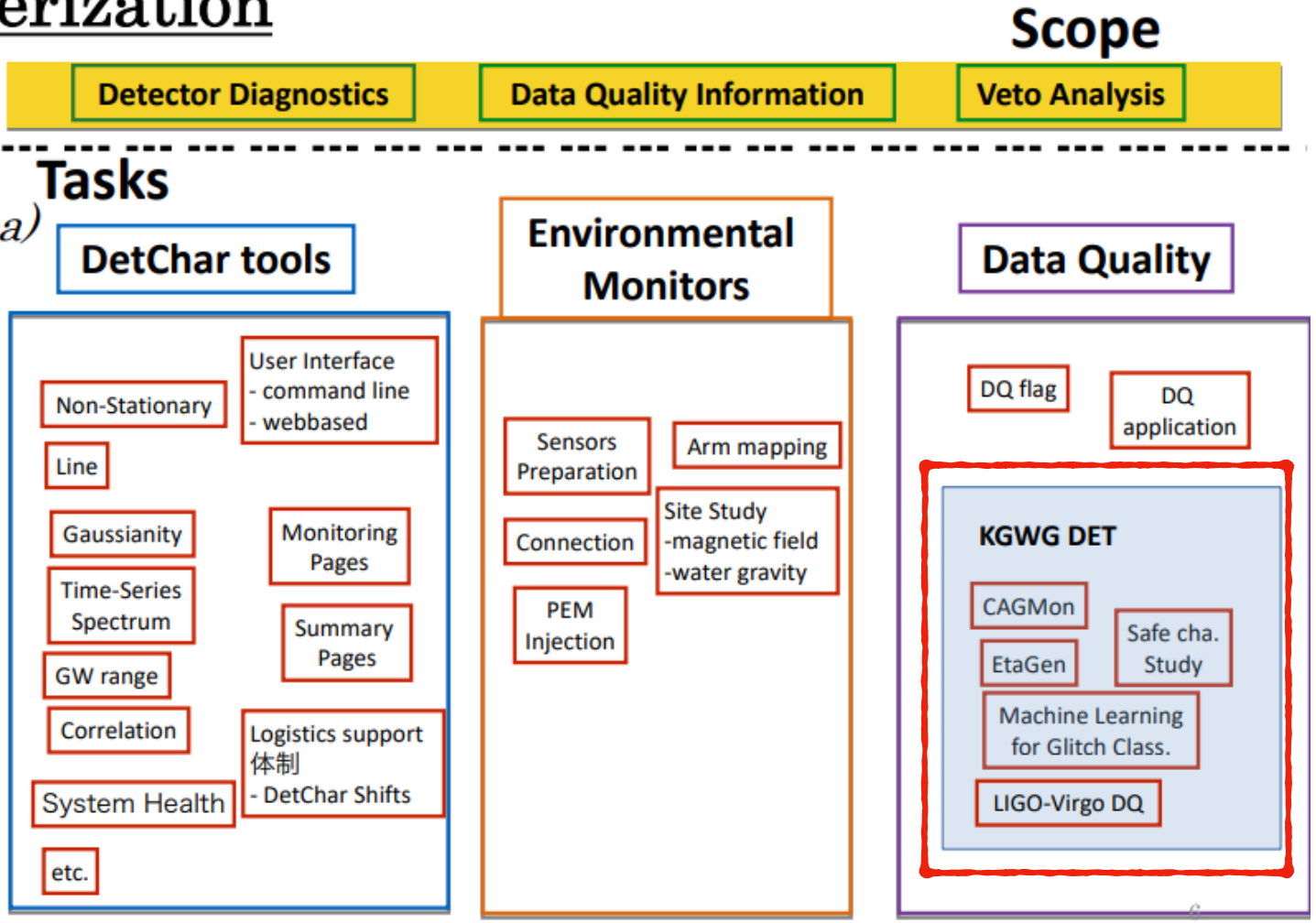
Role of KGWG-DET

Data Characterization

KGWG (NIMS, Korea) has a charge in off-line data characterization.



Current Status in KGWG

- A New Post-doc. joined NIMS group: Dr. Yeongbok Bae (KAGRA member) — will work in DET and Theory Group
- CAGMon, Safe Channel Study — developing and modifying code for parallel process since last F2F meeting @ OSU
- EtaGEN — the paper in progress (being reviewed); will be submitted soon

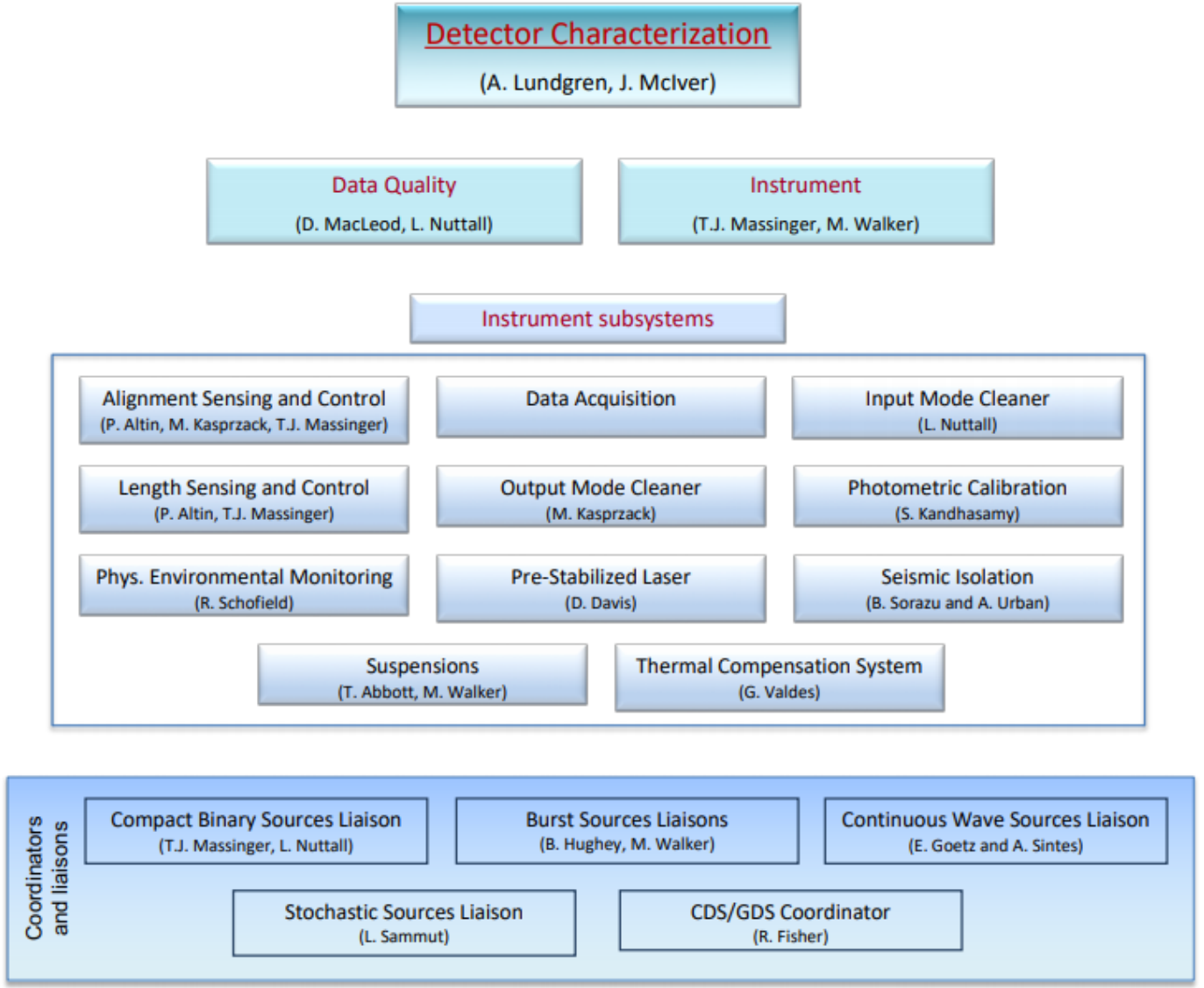
DET CLUSTER@KISTI

- KAGRA DetChar Cluster Build @ KISTI
  - KAGRA Dedicated Resource: 70TB Storages, 404 CPU cores
- Make a Detchar “account” in the cluster
- Build the relevant environment: “Libraries”, “Tools”, “S/W”, etc
- Installing ‘iDQ’ (online Data Quality SW used in LSC)
- Installing ‘Hveto’ (off-line DQ)
- Installing Omicron/EtaGen/Klein-Welle (Event Trigger Generators)
- Writing a ‘requirement document’ for building ‘DET machine’ (forwarded to Itoh-san)
- Still needs more discussions with Y. Itoh-san and persons @KISTI

DATA Transfer to KISTI

- For the purpose of Data Quality flag and Monitor DQ, the whole data of auxiliary channels will be transferred to DET Cluster@KISTI
- Off-line DQ: the latency will be O(day).
- On-line DQ: as fast as we can ~ within a few minutes or seconds / chunk.
- Need a test for data transfer: KISTI is contacting N. Kanda-san.
- Many discussions needed together with Taiwanian group (S. Haino-San)

Reorganization of DET working group for O3 Joint-run (LVK)



Reorganization of DET working group for O3 Joint-run (LVK)

- We must review the LSC Detchar White Paper for goals and missions with priorities.
- Then we can reorganize the working group organization by considering current person power and capability.
- We can draw subsystem characterization matrix for allocating missions and tasks to each working group.
- We have to build detchar dedicated server for distributing DQ monitor results, online tools, other informations such as DQ Summary Pages.

Reorganization of DET working group for O3 Joint-run (LVK)

Example: Cartoon View of Subsystem Characterization Matrix (LSC)

Subsystem	Channel information	Summary Pages	Front-end Status Monitoring (ODC)	Signal Fidelity
ASC	Lead: … Member: …	Lead: … Member: …	Lead: … Member: …	Lead: … Member: …
IMC	Lead: … Member: …	Lead: … Member: …	Lead: … Member: …	Lead: … Member: …
OMC	Lead: … Member: …	Lead: … Member: …	Lead: … Member: …	Lead: … Member: …
PSL	Lead: … Member: …	Lead: … Member: …	Lead: … Member: …	Lead: … Member: …
SEI	Lead: … Member: …	Lead: … Member: …	Lead: … Member: …	Lead: … Member: …
PEM	Lead: … Member: …	Lead: … Member: …	Lead: … Member: …	Lead: … Member: …
TCS	Lead: … Member: …	Lead: … Member: …	Lead: … Member: …	Lead: … Member: …
SUS	Lead: … Member: …	Lead: … Member: …	Lead: … Member: …	Lead: … Member: …
LSC	Lead: … Member: …	Lead: … Member: …	Lead: … Member: …	Lead: … Member: …
PCal	Lead: … Member: …	Lead: … Member: …	Lead: … Member: …	Lead: … Member: …
SQZ	Lead: … Member: …	Lead: … Member: …	Lead: … Member: …	Lead: … Member: …

Conclusion

- Reorganinzation of Detchar group for O3 Joint-run should be done as soon as possible, then added in DA Working group.
- Proceed for building detchar dedicated server. There will be an official request to KISTI (or KGWG) from KAGRA based on the requirement document (Y. Itoh-san).
- Installing various detchar tools and libraries in KISTI server: testing, analyzing data
- Transferring data from KAGRA to KISTI is important to maintain the Detchar Server.
- Need more person powers — designing DET Summary Page, Mission allocation in DET, etc

Thank You.