TOP/KLM status for cables, service space, crates, grounding, EMC

University of Hawaii:
- Gary Varner
- Brian Kirby
- Xiaowen Shi
- Christina Yee
- Grace Jung
- Matt Andrew

Indiana University:
- Brandon Kunkler
- Gerard Visser

KEK:
- Mikihiro Nakao
- Dmitri Liventsev

Virginia Tech:
- Leo Piilonen
- Norm Morgan
TOP status for cables & service space

• for each TOP module inside detector, need:
  - HV: 32 RG-316 cables; 512 overall
  - LV: 8 conductors @ 14 AWG, plus 16 conductors @ 20 AWG (not yet final); 128 @ 14 AWG, 256 @ 20 AWG overall
  - timing/jtag: 8 CAT7 to FTSW; 128 overall
  - BPM: 4 (undecided type of thin coax); 64 overall
  - data/trigger: 8 fiber optic pairs 50/125 LC/LC duplex; 128 overall
  - 4 analog outputs (undecided type of thin coax); 64 overall
  - ??? cooling pipes for 16*120W of dissipated power
KLM status for cables & service space

• for each KLM motherboard, need:
  • analog input from detector: 20 ribbon cables with 34 conductors each (50 mil pitch twist-and-flat)
TOP/KLM status for crates

- **TOP**: none needed on detector (except for 8 FTSW [6U]; but these 6U crates are shared with bKLM)

- scintillator-based eKLM/bKLM: need crates on detector for:
  - 12@9U: (112+16) 9U motherboards with ASICs and SCROD + (16+3) 6U KLM concentrators (for 7-to-1 consolidation) + (14+2) FTSW

- details at:
  - http://www.phys.hawaii.edu/~idlab/taskAndSchedule/KLM/KLMcrate_config.pptx
  - http://kds.kek.jp/getFile.py/access?contribId=145&sessionId=82&resId=0&materialId=slides&confId=11575
TOP/KLM status for grounding

- LV power supplies have grounds tied together at front-end only (occurs at carrier0/1/2/3 level)
- HV power supplies' grounds are tied together at front-end only (@ Indiana HV module), but may also be tied together at patch panel on detector as well (needs to be decided based on connector choice)
TOP/KLM status for EMC

- TOP/KLM:
  - untested
  - waiting for pre-production prototype hardware and final fully functioning firmware before testing this