Status of ladder assembly at HPK

May. 16, 2002 reported by J.Haba for Japanese assembly group.

• 0 hybrid pairs have been delivered from the last SVD meeting.

• 43 half ladders have been assembled so far.
  – 4 half ladders are on their jigs, two are being wire-bonded.

• 16 full ladders have been fabricated so far.
  – Ten of them were sent to KEK already.
Summary of ladder assembly until May 10.

• Hybrid
  – 60 hybrids have been delivered to HPK.
    • 10 of them were out of order. (7: gain cannot be measured, 1: connector was broken, 1: bad wire-bonding, 1: not works at all.)
  – 43 hybrids were used for ladder assembly. So we have 7 hybrids remaining.
Summary of ladder assembly until May 10.

• Half ladder
  – 43 half ladders were assembled.
    • 4 of them became bad condition after the assembly.
      – Z-side hybrid broke.
      – About 20 wire-bonding pads were covered with glue and gain cannot be measured except the covered strips. (this was assembled to a full ladder.)
      – LV is not applied at all
      – One chip gain cannot be measured, but noise level is quite normal.
  – 32 of them were assembled to full ladders.
  – Remaining 11 are categorized to as follow;
    • 2 normal half ladders
    • 2 are being wire-bonded
    • 4 are on their gluing jigs.
    • 3 are broken ones
Summary of ladder assembly until May 10.

- Full ladder
  - 16 full ladders were assembled.
  - 10 of them are placed at KEK.
  - 7 full ladders are not very well
    - One full ladder possesses the chip whose gain is not measured with the glue covered pads.
    - The 7 ladders are fabricated with not-good DSSDs: each has more than 20 pin-holes.
Summary of ladder assembly until May 10.

• Prospect
  – We have 9 good full ladders (good full ladders do not consist of the not-good DSSDs at all).
  – We will be able to assemble 7 good full ladders if no accident would happen and no more hybrids would be provided.
  – We will have to use 2 not-good full ladders for the final mounting.
    • In order to avoid the situation, we need 3 more hybrids at least.
Gain distribution of chips of 14 full ladders

By Ohno

~1200 strips

~4%
CMS noise distributions for the n-side

- **HV 0V**
- **HV 40V**
- **HV 60V**
- **HV 80V**

~1000e at peak
CMS noise distributions for the p-side

HV 0V

HV 40V

HV 60V

HV 80V

~1000e at peak