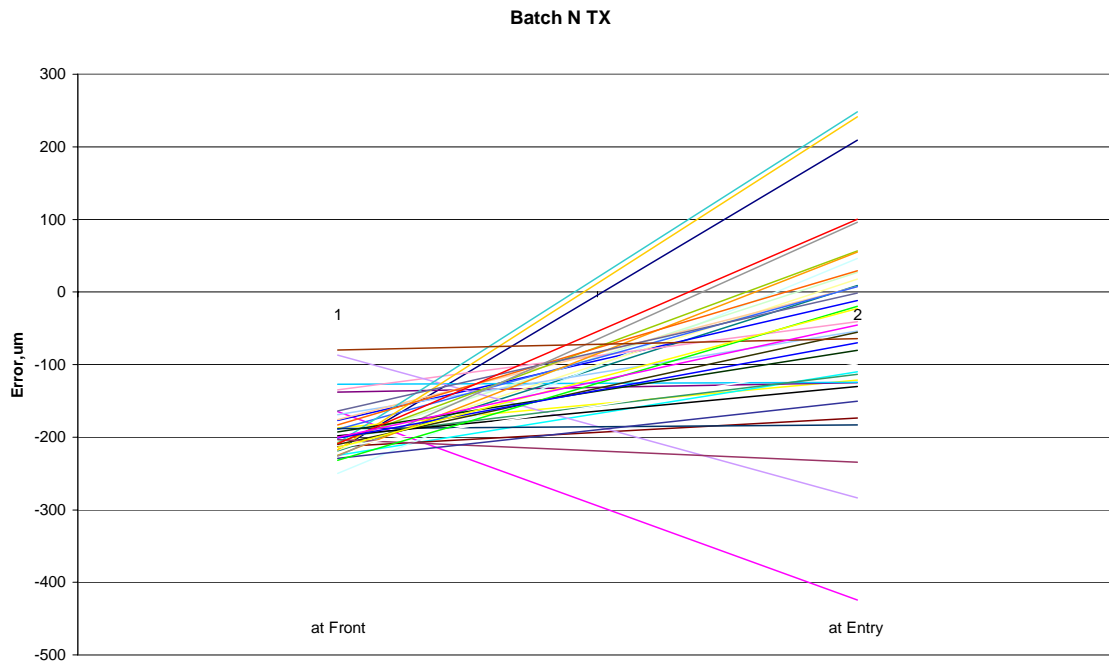


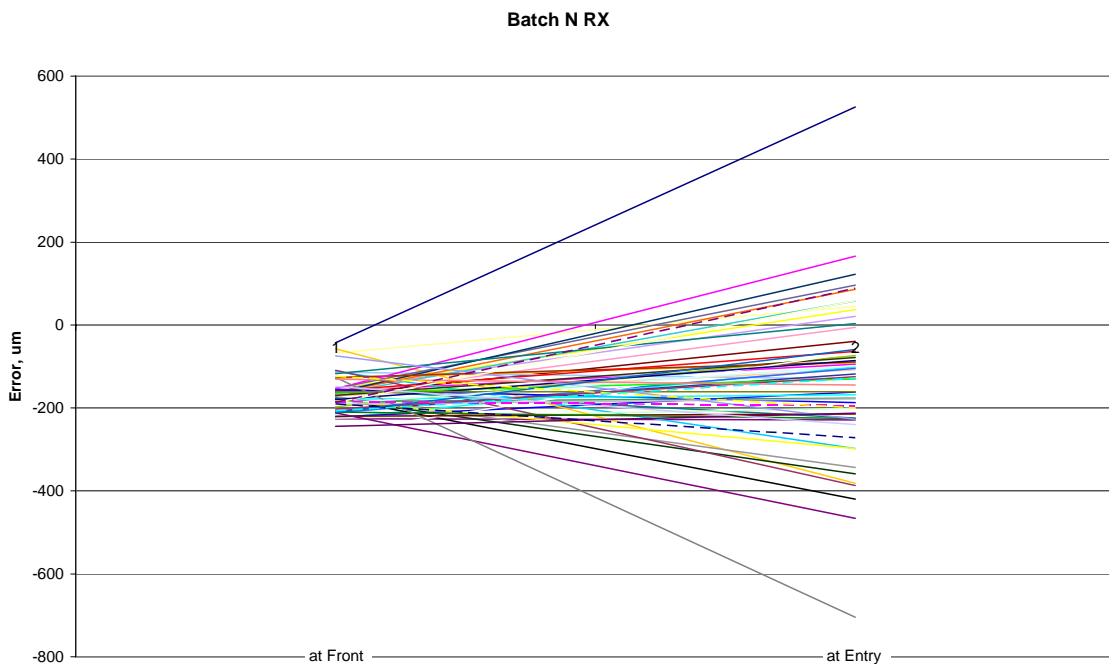
## Report on Batch N Opto Plug-Ins

Batch N comprises 38 TX modules, serial numbered ST196 to ST233 and 60 RX modules, serial numbered SR693 to SR752 (inclusive); received on 7th March 2005.

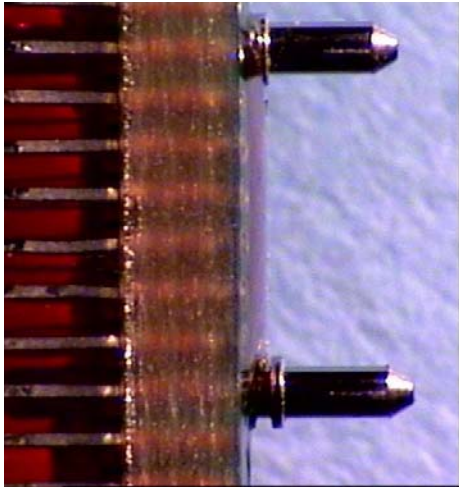
Firstly these modules were measured using the Profile Projector using the same method as for the previous batch. Of the TX modules 30 (79%) had a pin angle of  $0 \pm 1^\circ$  and the remaining 8 (21%) had a pin angle of 1 to  $2^\circ$ . However, looking at the mounting height of the array all were low, and only 2 low by less than 0.1mm, 20 (53%) being more than 0.2mm low. All were within 0.25mm. This can be illustrated by the “sticks” plot:



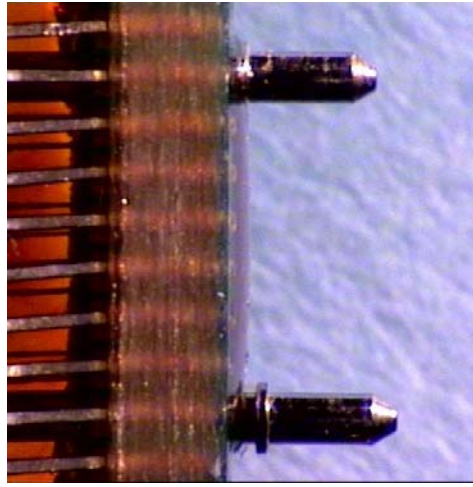
Similarly, the RX modules had arrays that were mostly flat to  $\pm 1^\circ$  (53 or 88%) with 3 (5%) being angled lower and 4 (7%) angled higher. Again the arrays were all mounted low with only 4 (7%) being less than 0.1mm low and 15 (25%) being more than 0.2mm low. Only one was more than 0.25mm low.



Two TX modules (ST199 & ST228) had pins which were not fully home, the shoulder on these pins therefore prevented the MT12 from meeting the guard wire and a large gap was left.



ST199



ST228

This was reflected in the electrical tests in that these modules were unable to deliver the required power into the fibre ribbon. One further module had BPM errors, one had no lasers coming on, and another had only the lasers for streams 0 – 5 coming on. Four more failed our data loop-back test on one or more streams. In all 9 TX modules failed the electrical tests, a pass rate of 76%.

Only 3 RX modules failed the electrical tests, a pass rate of 95%. One had low sensitivity on one stream; the other two failed the data loop-back test on one or more streams. Further investigation will be carried out to try to find the cause of the failures.

It is not yet clear how much mechanical displacement can be accommodated by the modified guides, hopefully this will be established soon.

JAE  
16/3/05