

**Comments on presentation by John Abbott *et al.*: “Monte-Carlo update, PIE metric results, further benchmarking to fiber data”**

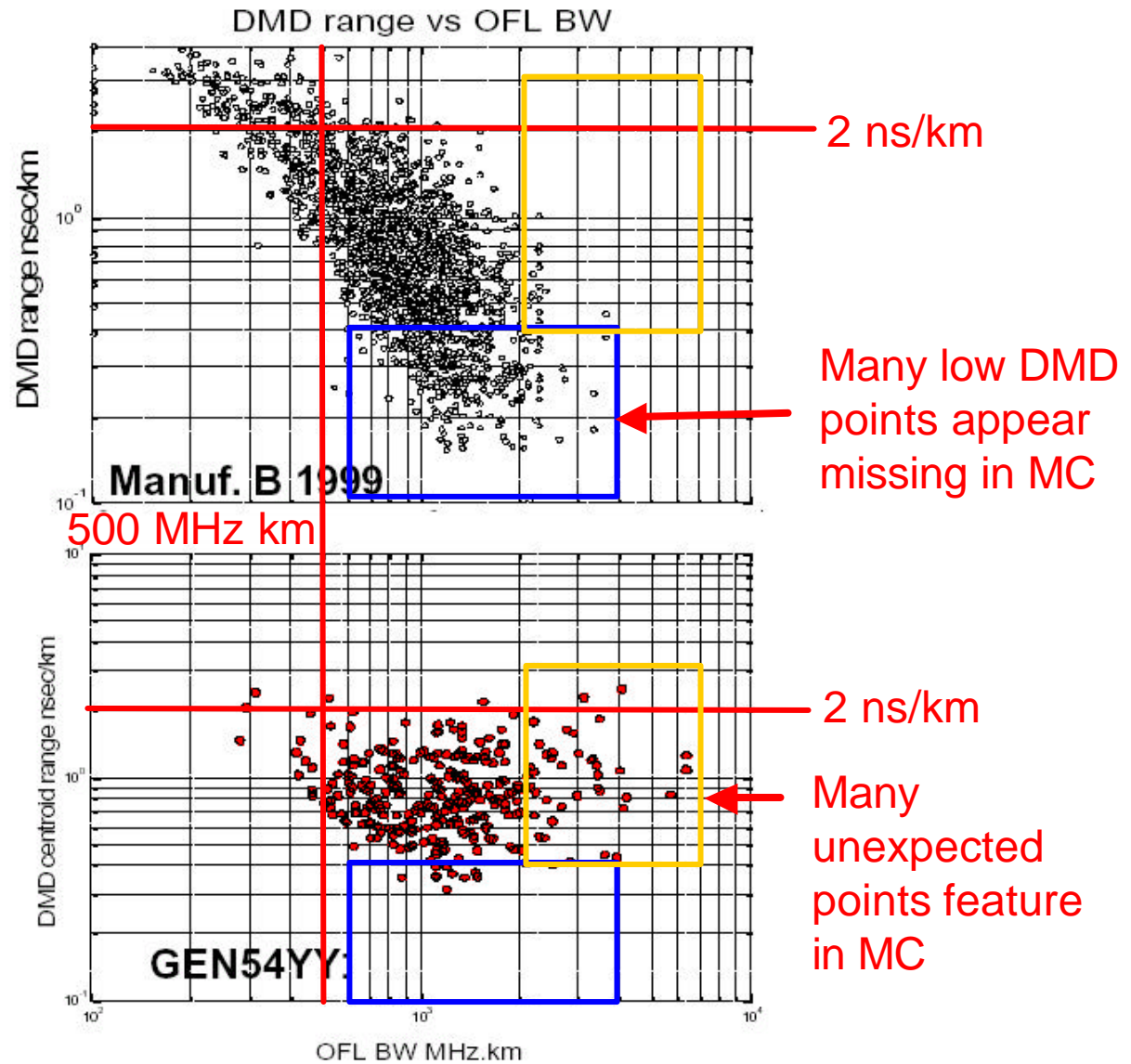
Comparison of Monte-Carlo model and “108-fiber” model

Comments specific to PIE-D assessment

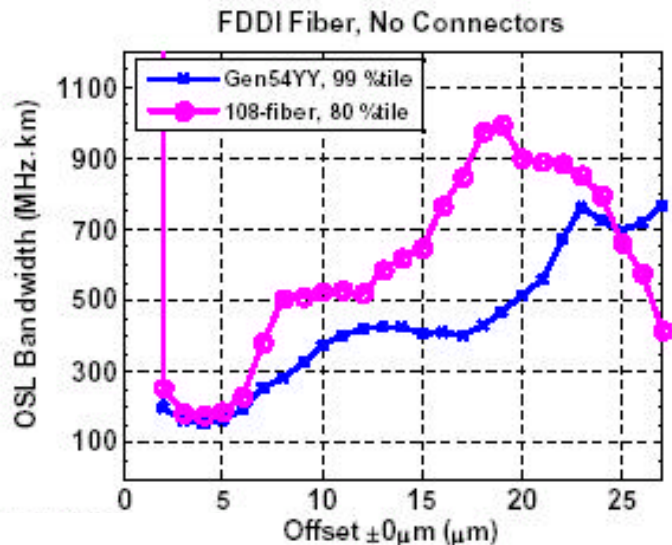
Further comments

# Is the 108-fiber model optimistic or the Monte-Carlo model pessimistic?

Agreement between manufacturer's installed-base data and Gen54YY (as shown on slide 17) appears to be low

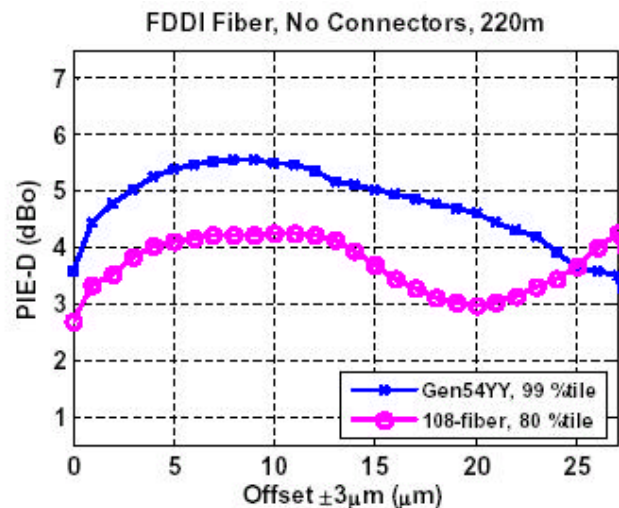


## Explanation for difference between Monte-Carlo results and 108-fiber results in John Ewen's presentation



Good agreement in bandwidth at low offset, e.g. 5  $\mu\text{m}$ , but less so at high offsets

Clear implication of this result is that there are **differences in the offset DMD assumptions between the two models** – this is compatible with the differences in the scatter plots



PIE-D differences at high offsets particularly. We expect PIE-D to be affected across offset range as this is susceptible to 2<sup>nd</sup>-order effects (e.g. high-frequency tails in frequency response), which ties in with BW data

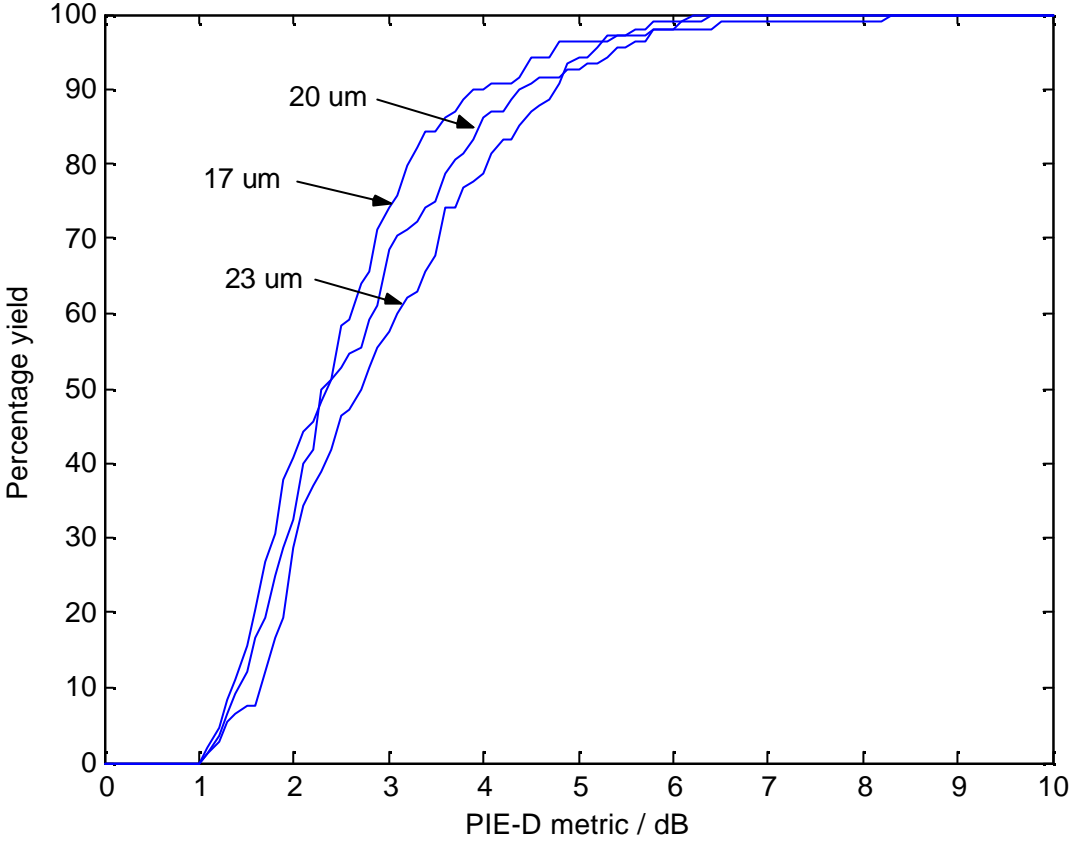
Clarity is needed in the justifications for the MC model, especially DMD slope

## Further comments

No connector effects included – see John Ewen talk, where **agreement between 108-fiber-model and Monte-Carlo model PIE metrics is shown to be high when connector effects are included**

Uncertain reason for choice of 17  $\mu\text{m}$  for the calculations – conventional method for comparison is to consider performance over a range of offsets (e.g. worst-case PIE over the 17  $\mu\text{m}$  to 23  $\mu\text{m}$  offset range)

Example PIE-D at 300 m for 108-fiber model offsets of 17 mm, 20 mm and 23 mm



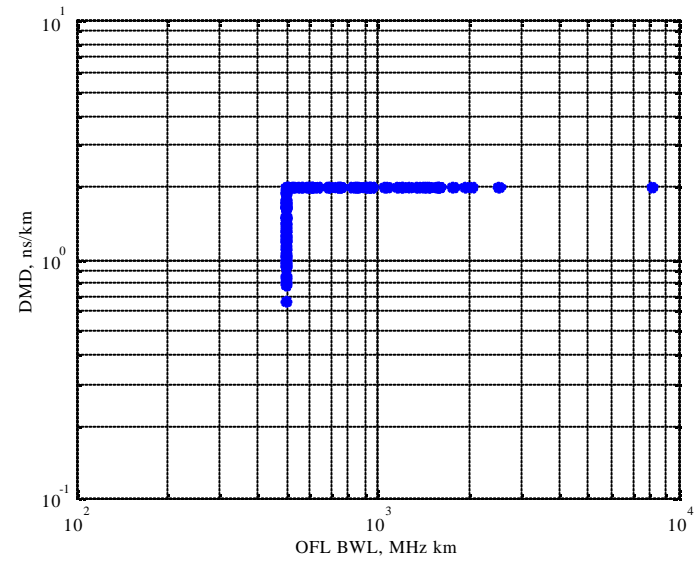
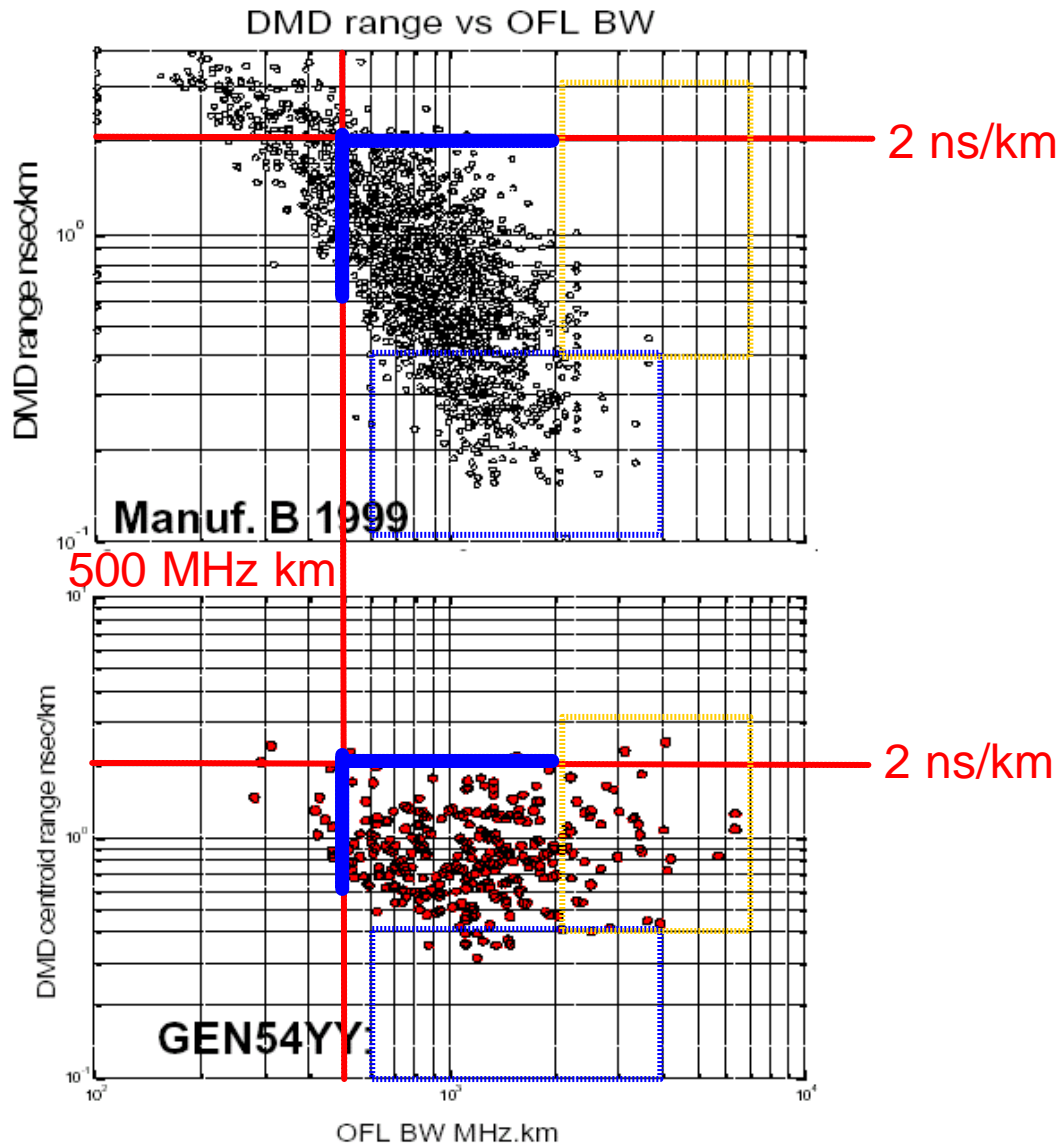
17 um is not the most challenging offset – suggests that comparisons would be better made at an offset of 23 μm

## Final comments

Results only shown for 300 m, whereas 220 m is the official target

Ideally would like to see PIE metrics for new Monte-Carlo population

# Back-up slide



108-fiber model  
for comparison  
(blue lines)