Bhabha Calibration

How to make it rolling — Conclusions

• Discussion was very fruitful
• I got lots of input from OPR team
• There is a better understanding of EMC requirements now
• Worked on a timeline for an implementation
Points of discussion

• **accumulation of matrices and vectors**
  – this point is believed to be fine

• **matrix inversion and calculation of constants**
  – when is it triggered ?
  – how often has the inversion to be done ?
  – which limits for statistics are set ?

• **validation**
  – what information do we need and what do we have in OPR?
  – do we need to translate all requirements to OPR?

• **storage**
  – how do we set the validation period?
  – what happens to not-validated channels?
What needs to be tested and how

The bhabhas will make it to a rolling calibration in three steps:

1. Small scale testing on a dedicated test farm (⇒ Teela) to ensure
   • no crashes which will stop OPR
   • procedure works well and as expected

2. Large scale testing on PC/ER
   • results will be invisible for physics (separate db-container)
   • numerical checks with statistical precision
   • input for establishing final validation requirements

3. Parallel running
   • never trust a stranger!
<table>
<thead>
<tr>
<th></th>
<th>Preparation</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. test farm</td>
<td>Almost no preparation. The code is there, it just has to be set up together with Teela.</td>
<td>The proof of principle needs just a few runs, but to be reassured that this won’t do any harm to data taking some days are recommended.</td>
</tr>
<tr>
<td>2. large scale</td>
<td>Might need some modification for where the results are stored. This needs help from DB experts. Validation needs to be translated from ROOT. This might need some days to dig out where to find all information needed.</td>
<td>About one week to get several calibrations comparable to what we use by now.</td>
</tr>
<tr>
<td>3. parallel</td>
<td></td>
<td>It is up to us to change the destination of the constants</td>
</tr>
</tbody>
</table>

**Timeline**
Other Issues

• A good time to include rolling bhabha’s would be start of run5.
  Not clear yet if ’include’ corresponds to step 2 or 3

• There are very rare crashes of the code with SegV – this is a no-no
  I’ve checked logfiles for several hundreds of jobs and found two cases:

  1. due to unreadable objy-db
     my guess is that an inaccessible objy-db will stop OPR anyhow

  2. during output from AppAST
     seems to be caused by a module writing root-files for analysis which will not
     be included in online version