Status of RPC production (1)

- The leading production for RPCs is the the gas volume production at GT. All other items (strip panels, FE boards mounting, support panels, unit's assembly, test) must follow this schedule.

- An INFN committee coordinates this production for all experiments which use or plan to use RPCs (ATLAS, CMS, ARGO, OPERA, ALICE, LHCB).

- Production according to this plan started in January 2002.

Status of RPC production (2)

- In February 2002 it was found that backelite produced after an upgrade of the production plant did not have the same gluing properties as the previous one.
- ATLAS was able to continue with production till April 4th using bakelite produced in 2001.
- Many different analysis (optical, chemical, XRF, infrared) have been done to understand the different properties of the bakelite surface but we do not have, at the moment, a clear answer.

Status of RPC production (3)

- However a very reliable solution has been found: Bakelite plates, before gluing, go through a "washing machine" (plastic brush + Methyl Ethyl Chetone).
- Gluing properties are better than before.
- 5 ATLAS gas volumes have been produced at the beginning of May to test the effect of the new procedure on chamber performance. With 4 of these one BML-D Unit has been produced an tested in Naples.

Status of RPC production (4)

- After these tests we decided to restart production of gas volumes at the end of May.
- A new production plan has been prepared by the INFN committee to take into account the delay due to the 2 months stop.
- According to this plan we have now the following schedule for gas volumes production

Status of RPC production (5)

- This schedule is very tight and is based on the production of 9 gas volumes/day.
- However, as demonstrated at the restart of production, we are confident that we will be allocated 11 gas volumes/day.
- In this case the production of gas volumes can be completed by the end of Oct. 2003 with a global schedule still compatible with the ATLAS installation schedule.

Status of RPC production today (standard units)

❑ **Bakelite plates**	**(PanPla)**	**7.152**	**2.671**	**37%**
❑ **Gas volumes**	**(GT)**	**3.576**	**538**	**15%**
❑ **Strip panels**	**(GT+Na)**	**7.856**	**1.053**	**13%**
❑ **F.E & B.E boards**	**(Microtel+RM2)**	**44.988**	**7.181**	**16%**
❑ **Readout panels**	**(RM2)**	**7.856**	**448**	**6%**
❑ **Support panels (sets)**	**(Protvino)**	**982**	**198**	**20%**
❑ **RPC Units**	**(Lecce)**	**982**	**42**	**4%**

Other items - Support panels

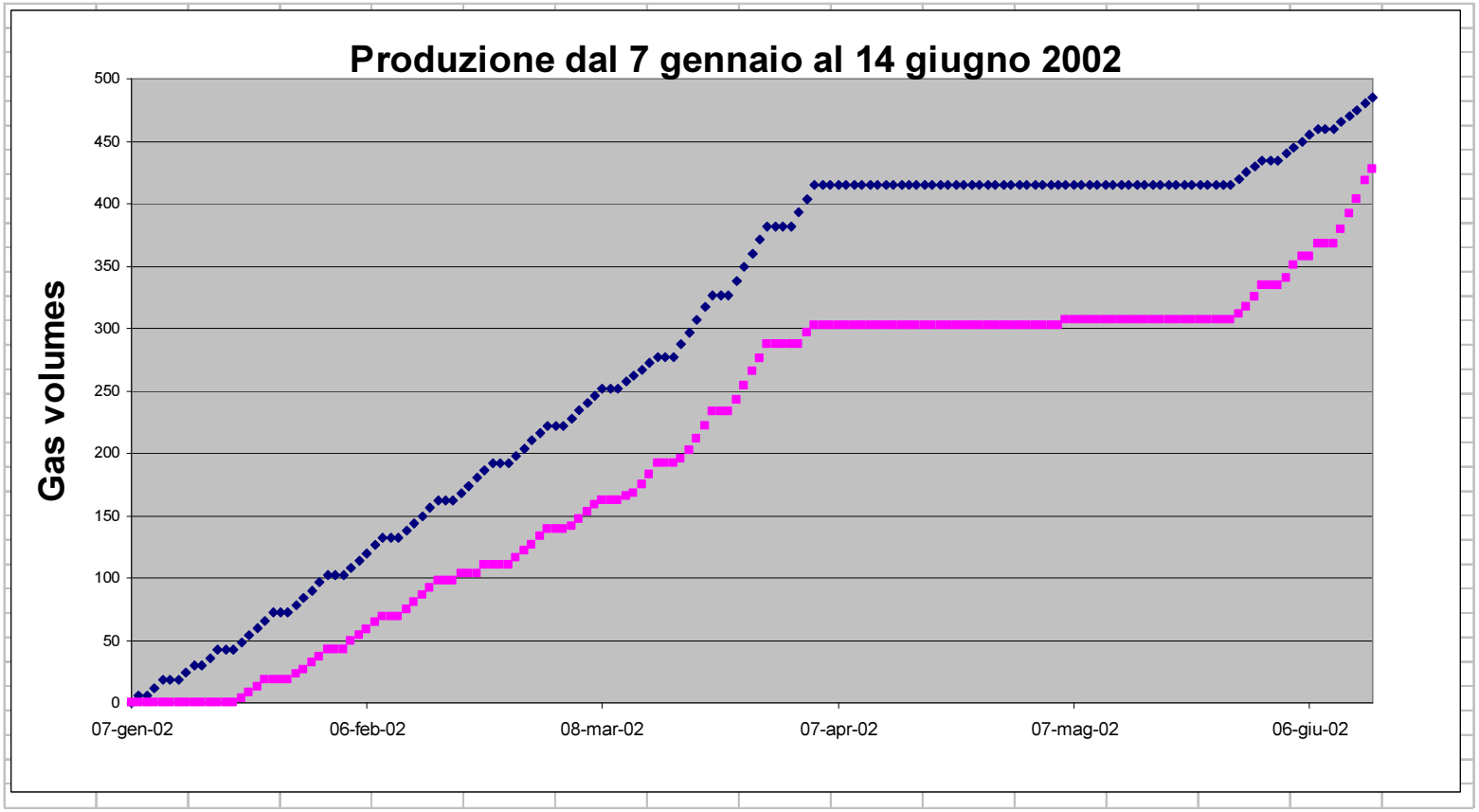
- The RPC groups decided to replace the paper honeycomb with aluminum honeycomb for pre-bent support panels. This solution increases the robustness and the long-tern reliability of the RPC mechanical structure.

- Plane panels are still done with paper honeycomb.

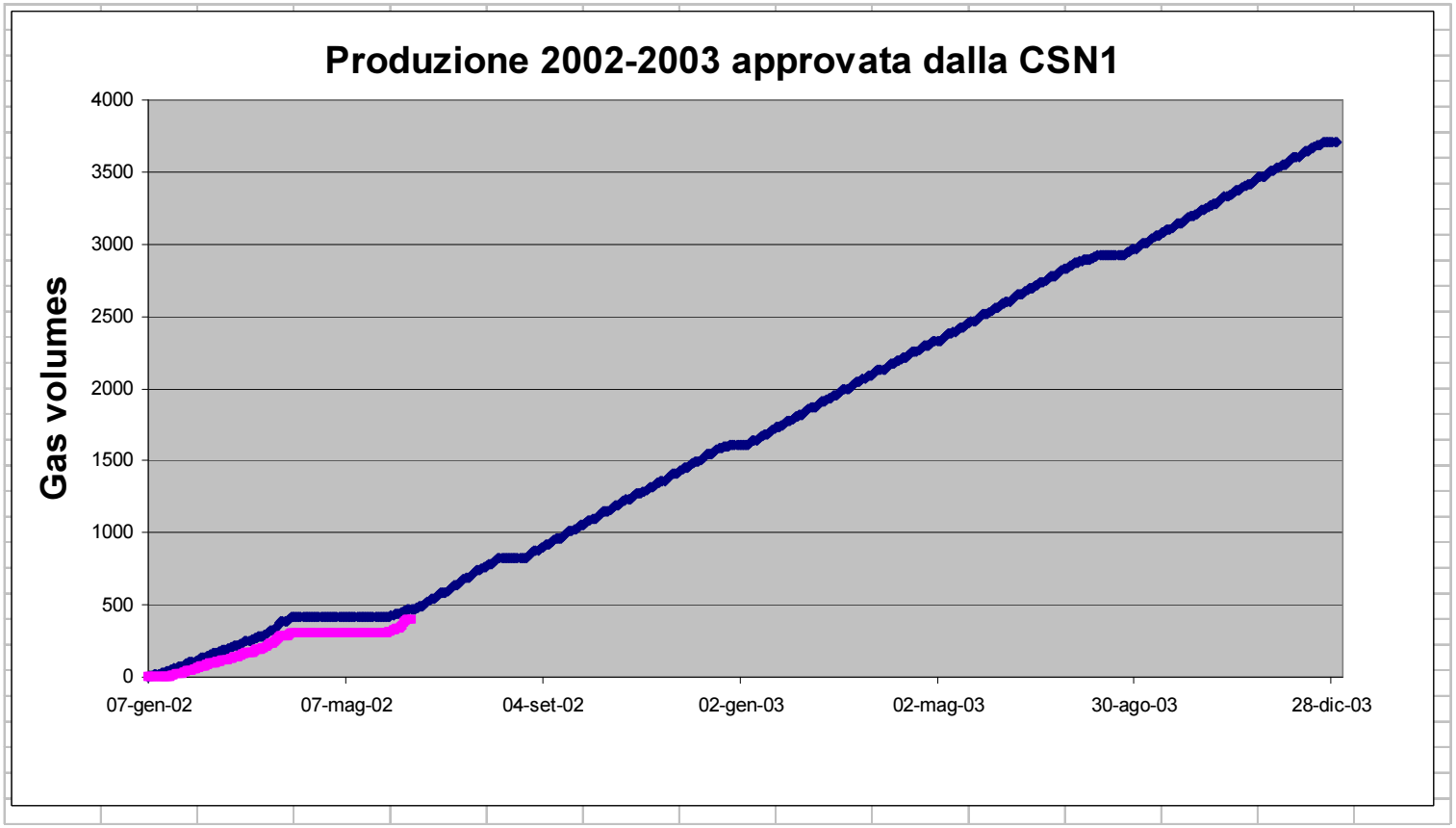
More details (mounting of F.E. boards)

- Much of the present delay of F.E. boards mounting on strip panels is due to the last delivery of F.E. boards.
- In Rome 2 there are many panels with B.E. boards mounted waiting for F.E. boards.
- Next two-three months will be crucial to understand if the required "cruise" speed is achievable.

Gas volume production January - June 2002

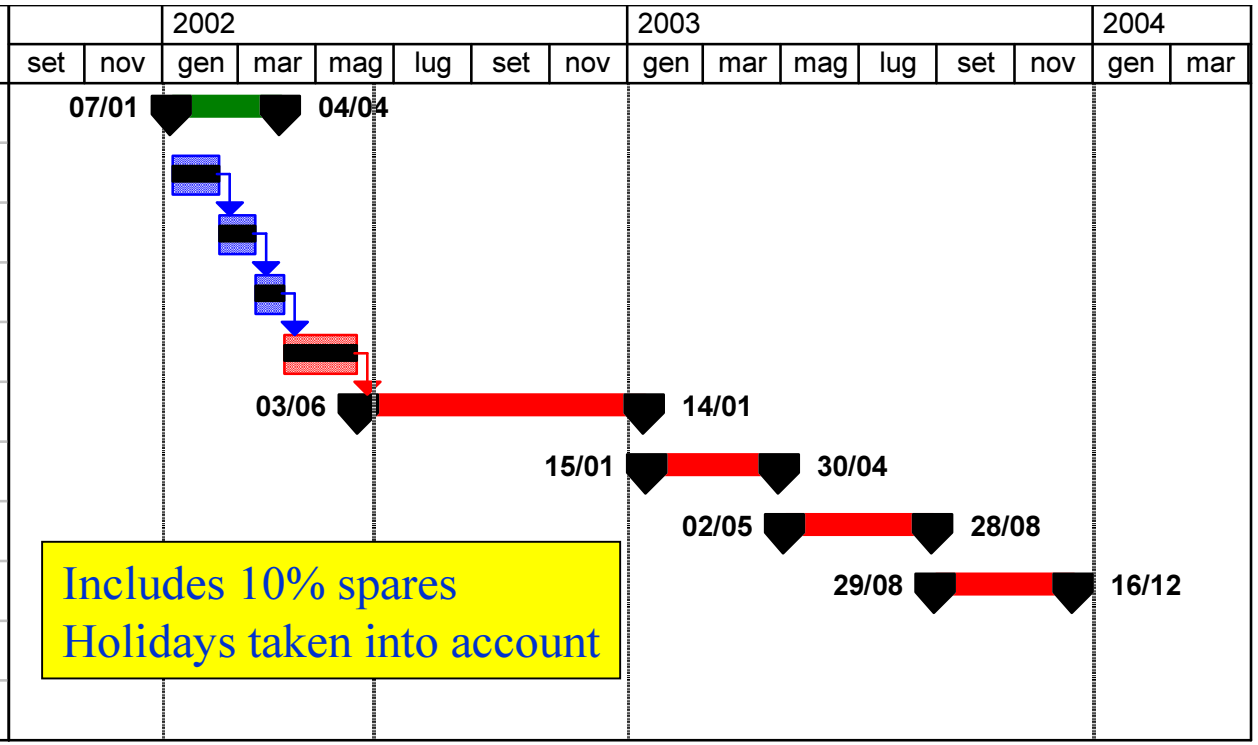


Gas volume production 2002 - 2003

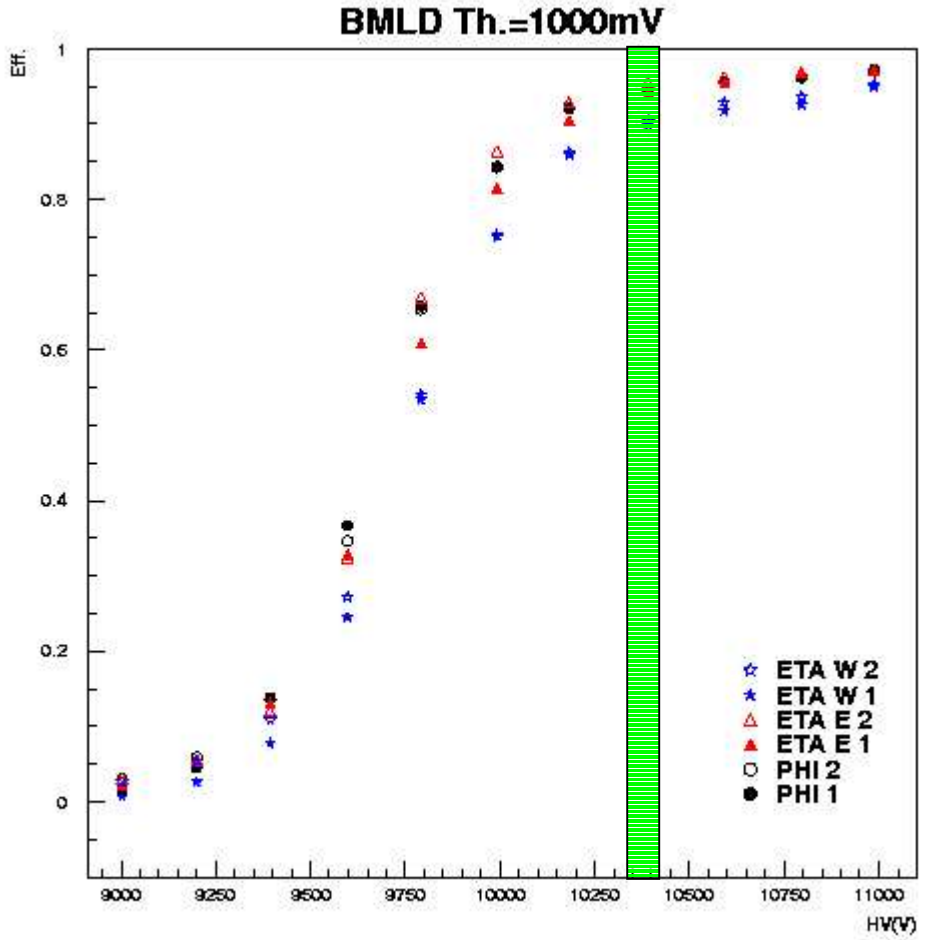


Gas volume schedule

ID		Nome attività
1	✓	**Done**
2	✓	**BOS B**
3	✓	**BOL B**
4	✓	**BML D**
5	✓	**Gluing problem**
6		**BML**
10		**BMS**
17		**BOL**
21		**BOS**

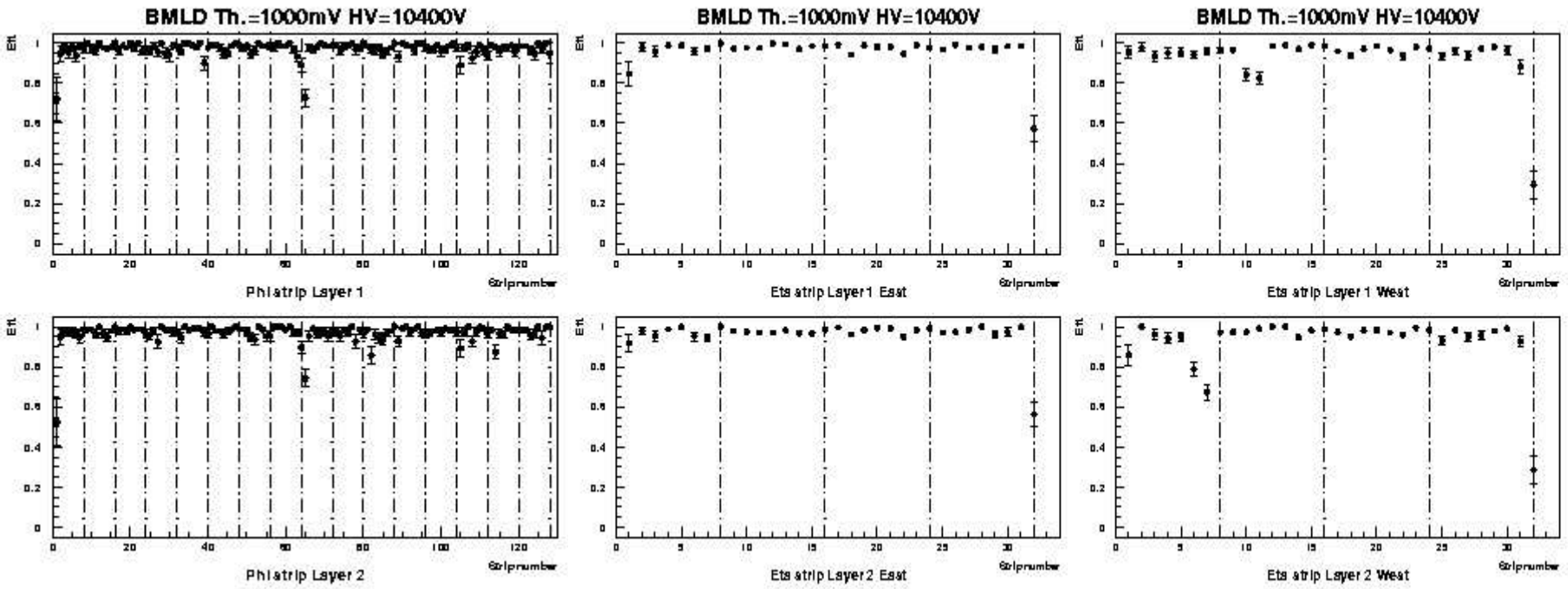


Global efficiency

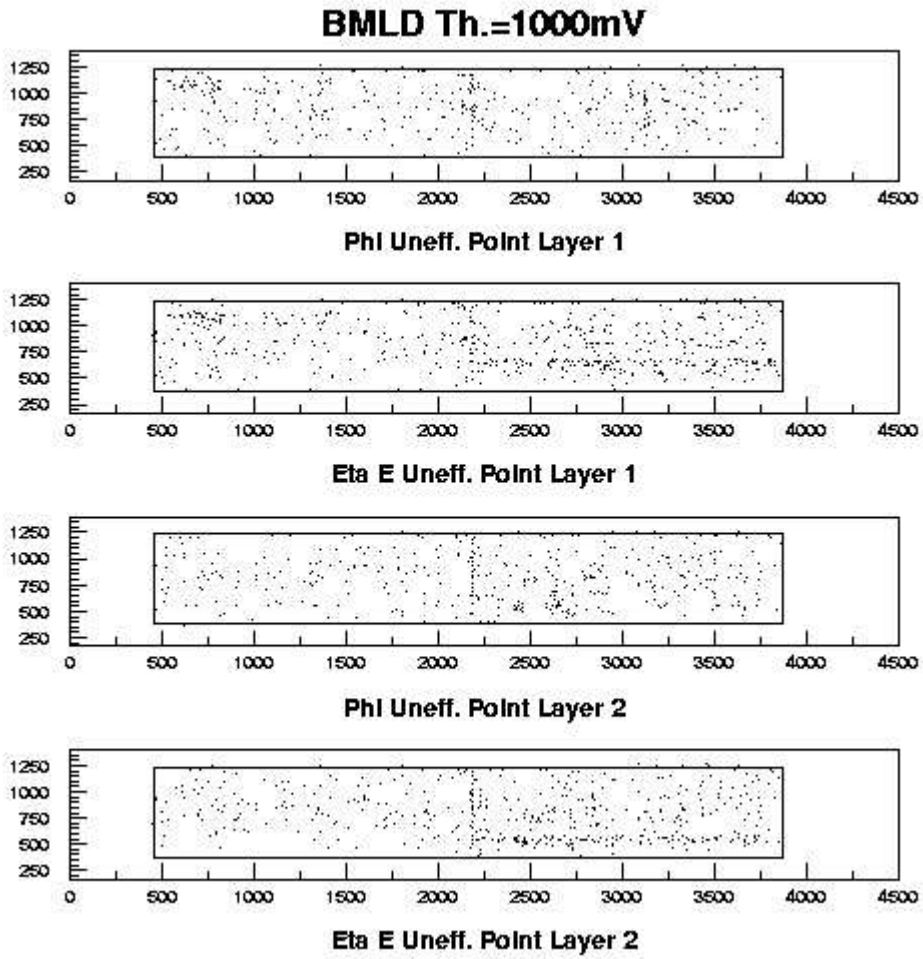


Local efficiency

Φ (2 gap) η EST (1 gap) η WEST (1 gap)

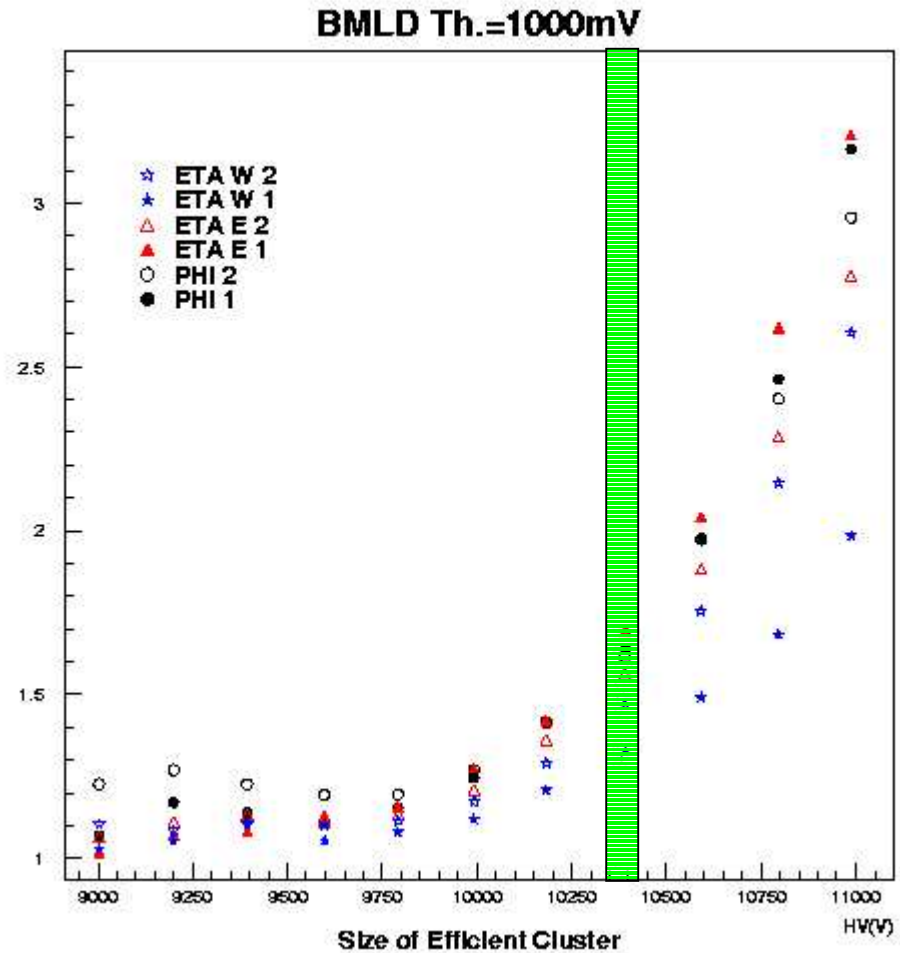


Inefficient regions



HV = 10400 V

Cluster size



RPC global schedule