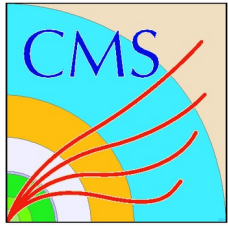


Lessons Learnt During CMS Tests Beams In 2024

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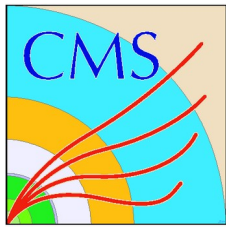


Summary

In 2024 CMS had eight subsystems with ten different teams testing various detectors for CMS upgrades in eighteen different periods.

Most of the tests were preparations for Production Readiness Reviews of rather mature designs that had to be confirmed in the beam. Beam time was crucial for the timely preparation of such milestones!

We also did very useful tests in M1 and MNP22 magnets!



Great support!

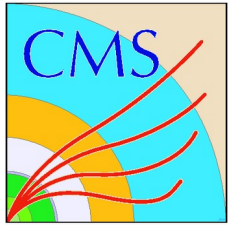
Every single team I talked with had only words of praise for the support received in the preparation and execution of the tests!

In particular: it was very much appreciated to be able to arrive to the area where the necessary infrastructure is already in place (or on its way from another area)!

It was very much appreciated that the beam files were already prepared and fine tuning done whenever needed, including after hours or during weekends!

Thank you!

Keep up the good work!

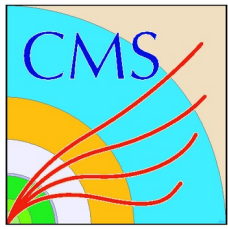


Not only...

Beam availability and quality is the first to come to the mind, but we should not forget instrumentation, cooling, gases, support tables etc etc. They are all necessary for the smooth data taking! The support in these areas was as prompt as we could hope for! Thank you!

We should not forget to thank the crane operators who transport our precious devices, often in very difficult conditions(*)!

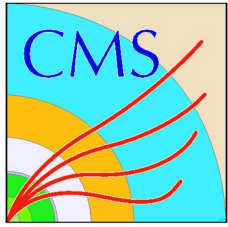
(*) *Wednesdays are frantic! Please keep scheduling a second team whenever possible!*



PS / SPS

As always with test beams - availability is more important than intensity. Both PS and SPS are old machines, it was nice to see how high availability was achieved in spite of their age!

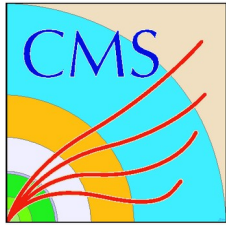
Note: The effort put into keeping SPS Page 1 up to date was very much appreciated! It made a big difference in daily planning!



Scheduling

We very much appreciated the flexibility - some of the devices arrived late, some didn't arrive at all... it was very nice that the coordinators were ready and willing to accommodate the changes and try to find the optimal solution for everybody concerned!

Note: we would appreciate if the first version of the users schedule could be published earlier. We know that the task is a complex one, but it would allow better planning of the travel (and reduce costs for air fares).

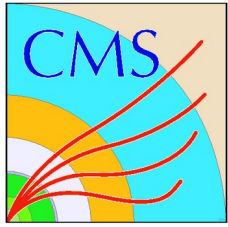


Concerns

One important area of concern are beam telescopes! A large number of test beams requires them and the MIMOSA chips are getting old and impossible to find. A new generation will be needed soon!

Note #1: I am not sure that all the existing telescopes will last until LS3!

Note #2: Our heartfelt gratitude goes to Andre Rummler for his efforts to maintain as many of telescopes as possible in a functional state and even help with their installation and operation!

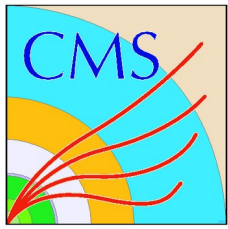


Plans

In 2025 CMS will have similar level of activity* with the emphasis moving towards testing the production devices and electronics.

We are looking forward to another year of excellent collaboration!

* *Eight subsystems, nine teams, 16 runs, 24 weeks.*



Comments?

Questions?