



Alignment mechanism for ATLAS/CMS



Installed inside the shielding of two of the largest experiments at the Large Hadron Collider, ATLAS and CMS there are special collimators known as the Target Absorbers (TAS).

This equipment it needs to be adjusted manually each time the detector opens. In addition to this, the TAS has been modified over the years, meaning that the alignment procedure does not match the procedure that was originally envisaged.

This alignment is a time-consuming and delicate process which risks damaging other components. And because the Large Hadron Collider is a radioactive zone, there is also a risk to worker safety.

In the context of the HILUMI project, several upgrades are going to be made to the TAS, and we are taking this opportunity up upgrade also the alignment mechanism.

We are working to design a new TAS alignment mechanism prototype which will reduce dramatically the time taken for aligning. So far 4 different designs have been tested.

If successful, the new TAS will mean that we can shorten the length of time it takes to set-up ATLAS and CMS, as well as reduce the risk of damage to the machinery.

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