Turkey at CERN

CMS

Participating Groups:

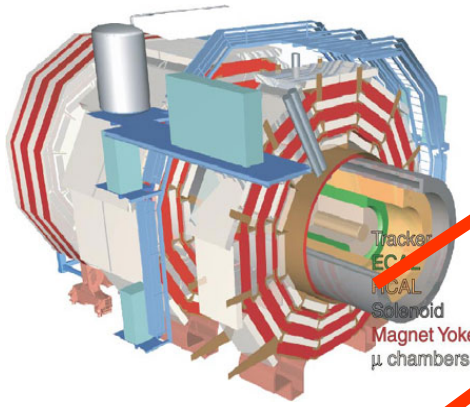
Bogazici University[a] Cukurova University[b] METU[c]

[a]**Bogazici University: Erhan Gülmez (group leader)**, Engin Isiksal (Marmara University), Mithat Kaya (Kafkas University), Suat Özkorucuklu (Süleyman Demirel University)

[b]**Cukurova University: Gülsen Önengüt (group leader)**, Eda Eskut, Aysel Kayis-Topaksu, Ayse Polatöz-Kuzucu, Isa Dumanoglu, Sefa Ertürk (Nigde University)

[c]**METU (Middle East Technical University): Ramazan Sever (group leader)**, Akif Esendemir, Meltem Serin-Zeyrek, Mehmet Zeyrek, Kerem Cankocak (Mugla University)

Our main contribution in CMS is in HCAL subdetector, especially in the HF Calorimeter part. Turkish industry built the strongbacks, ferrules, and the backplanes of the HF Calorimeter.

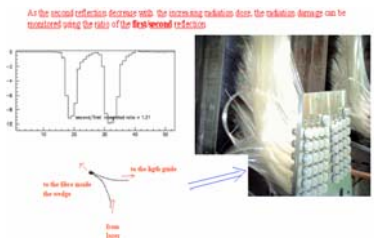


RADIATION DAMAGE STUDIES

We have demonstrated that, after receiving 100 MRad doses, the plastic cladded fibers suffer similar radiation damage to much more expensive quartz cladded fibers. Hence, CMS HF group decided to use plastic coated quartz fibers since they had the same performance and resulting in important savings for CMS.

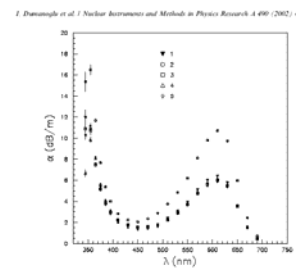
ONLINE RADIATION DAMAGE MONITORING

In collaboration with the University of Iowa team, we have designed, tested, and installed a system for monitoring the radiation damage of the HF Calorimeter fibers during the data run.



CMS GOLD AWARD

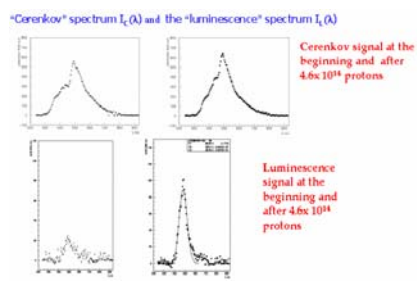
EAE of Istanbul and MFK of Bursa received the CMS Gold Award in 2003 for their excellent job in producing the HF Calorimeter parts.



Attennuation measured for five types of fibres for 100 MRad dose.

LUMINESCENCE

We reported the first observation of the luminescence effect in the fibers (fibers producing light even after the irradiation).



PHYSICS

In paralel to our construction, installation, and commissioning responsibilities, we are preparing for the data run in 2007. Training of physicist to use CMS offline analysis packages and simulation studies which use these packages are underway at all participating institutions.

All the Turkish groups at CERN have been supported mainly by the Scientific and Technical Research Council of Turkey (TÜBITAK).