

Workshop on "Hadron-Hadron & Cosmic-Ray Interactions at multi-TeV Energies"

ECT*, Trento

29th - 3rd Dec. 2010

Organizers:

Ralph Engel (Karlsruhe)
Torbjorn Sjostrand (Lund)
David d'Enterria (CERN)

Topics of the workshop

❖ Hadronic interactions at **collider** energies:

EXP: LHC (p-p, Pb-Pb), Tevatron (p-pbar), HERA (e-p), RHIC (Au-Au)

TH: PYTHIA, HERWIG, SHERPA, MC tuning, parton correlations, $\sigma(\text{tot})$, jets&UE, saturation, baryon prod., MB hadron prod., ...

❖ Ultra-High-Energy **cosmic rays**:

EXP: 10^{15-20} TeV CRs, 100-GeV gamma-rays, TeV neutrinos.

TH: EPOS, QGSJET, DPMJET, SYBILL, FLUKA, baryon prod., $\sigma(\text{CR})$, ...

❖ **36 talks:** theoretical (18) & experimental (18) results.

❖ Data:

LHC: ATLAS, CMS (2), ALICE (2), LHCb, LHCf, TOTEM

e-p: HERA (H1+ZEUS), **p-pbar:** Tevatron (CDF+D0), **RHIC:** STAR

UHECRs: HiRes, Auger, TA, Argo-YBJ, KASCADE-Grande, IceCube,

Goals of the workshop

- ❖ Discuss **latest theoretical & experimental developments** connected to hadronic interactions in HEP & UHECR physics:
 - High-energy QCD**: multiparticle production, minimum-bias, diffraction, inelastic x-sections, multiparton interactions, gluon saturation, baryon prod., underlying event, MC tuning, ...
 - UHECR** open issues: CR energies, CR composition, shower Uncertainties, spectral structures (knee-ankle-GZK cutoff), AGN-correlations, astrophysical sources ...
- ❖ **Share** knowledge / techniques / experiences between **colliders – cosmic-rays** & between **experiment – theory** communities.
- ❖ Talks organization: **~30 mins. talks (with 5-10 mins. questions)**.
 - Allocated times in agenda are **indicative**
 - No sharp time constraints. Discussions as long as needed.
 - Programme starts at 9:00, ends at ~17:00.

“Technical” corner

- We are considering to publish a “mini-proceedings” with all authors in [arXiv.org](http://arxiv.org). Each presenter asked to prepare **1-page-summary** (“long abstract” with references+1 figure maximum) of his/her talk.
- **Upload your talk & “long-abstract”** in the agenda web page:
<http://indico.cern.ch/conferenceOtherViews.py?confId=84624>
(click on 'manage')
- **Meals:**
Lunch at ECT* (bring your tickets)
Dinner at different local restaurants: reception tonight at ECT*,
“La Baracca” (Tuesday), “Orso Grigio” banquet on Wednesday,

PLEASE SIGN FOR LUNCH EVERY DAY WHEN ARRIVING AT ECT*