Top physics at the LHC and future colliders

Research Project / Research Group Description:
The ATLAS/future colliders group at IFIC consists of 5 staf researchers, 3 post-docs and 5 Ph.D. students. The group is very actve in the analysis of the data collected by the ATLAS experiment at the Large Hadron Collider. Group members have made partcularly strong contributons to searches for physics beyond the Standard Model and to studies of the top quark. The group is moreover deeply involved in the internatonal efort to construct a high-energy, linear electron-positron collider. The IFIC group plays an important role in studies of the potental of the linear collider and the defniton of the scientfc programme. Group members also make important contributons to the development of accelerator and detector technology. The group and the internatonal research it is involved in ofer a challenging learning environment for excellent Ph.D. students. The successful candidate will enroll in the doctorate programme of Valencia University and perform cutng-edge research at the largest scientfc facilites in the world. The IFIC group has a broad expertse from the development of new analysis techniques to detector and accelerator technology. The group is very well connected to leading internatonal experimental and theory groups, where students regularly enjoy secondments.

The group's actvites are funded through the Spanish natrional programme for partcle physics, several EU projects, the regional government of Valencia and the excellence programme "Severo Ochoa".

Job position description:
The successful candidate will perform an experimental study of the propertes of the top quark using ATLAS data and projectons of the potental of the linear collider. The group has a recognized track record in the development of techniques for the reconstructon of boosted top quarks at the LHC and of novel methods to measure the top quark mass and its electro-weak couplings. The successful candidate will choose a subject of his/her choice that builds on the existng expertse and extends the group's top physics actvity to new areas.

We expect the candidate to demonstrate a lively interest in the excitng fundamental physics of energy-fronter collider facilites. The candidate should be capable of developing a new initatve in close collaboraton with group members and theoretcal physicists at IFIC and in other insttutes.

We believe the INPhINIT programme ofers an excellent opportunity to take the first steps of your scientfc career in an internatonally recognized group.

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Research project/Research Group website
https://ific.uv.es/web/altasenergias