ATLAS Policy document: Access of non-ATLAS physicists to ATLAS data and unofficial results

Version 2.0

Approved by CB, 9 October 2015

This policy document describes the three approved ways of collaboration of ATLAS members with non-ATLAS physicists that permit sharing ATLAS data and unofficial results with identified individuals outside of ATLAS.

Note

This is an updated version of this policy, last endorsed by the CB 5 October 2012.

Access of non-ATLAS physicists to ATLAS data and unofficial results

[Last update: 16 September 2015]

The following three policies are envisaged to enable collaborations with non-ATLAS physicists (e.g. theorists). The first and third involve ATLAS collision data and/or unofficial results based on data. The second primarily covers ATLAS studies performed with simulated data and result interpretation.

1. **Interactions with authors of Monte Carlo generators and related tools (MCI)**. The persons involved do not become authors of ATLAS papers and they have no access to ATLAS data or access to ATLAS internal web pages. They may however be involved in discussions of results not yet approved for presentation outside ATLAS (but approved for this specific purpose by the Physics Coordinator). If they have made significant contributions they may be acknowledged in one or more paper(s). Such interactions do not need CB endorsement, and are managed by the Physics Coordinator.

2. **Collaboration with Analysis Consultants and Experts (ACE)**. In such cases the non-ATLAS physicists have no access to ATLAS data or access to ATLAS internal web pages, but would participate in discussions of Monte Carlo simulated data analysis and the interpretation of ATLAS results. Work will normally be directed towards establishing ATLAS' sensitivity to, or optimisation of, an ongoing ATLAS search for new physics hypotheses – typically the non-ATLAS physicists would be experts on the physics models being considered. Such interactions are managed by the Physics Coordinator after consultation with the Spokesperson. Depending on the type and amount of work done by the non-ATLAS physicist the contribution is acknowledged by a reference, an acknowledgement or, exceptionally, co-authorship.

3. **Short-term association (STA)**. Non-ATLAS physicists benefiting from this status participate in the analysis work leading to one or more papers, have access to ATLAS data, and typically become authors of the paper(s) to which they have contributed. Short-term association requires CB endorsement.

1. Interactions with the authors of Monte Carlo generators and related tools (MCI)

Introduction

During the data-taking phase, extensive comparisons of ATLAS data with the predictions of Monte Carlo (MC) generators are performed and generator parameters are tuned to data. Interactions with the authors of MC generators, or of related phenomenological tools (referred to as "MC authors" below), can be very useful to speed up the process of understanding the data and their modelling. Such interactions usually take place during workshops or when ATLAS results are presented at conferences. It may, however, be important in some cases to discuss internal plots and results with physicists from outside ATLAS. The procedure proposed here addresses such cases.

Guidelines

The Physics Coordinator decides in consultation with the Physics Modelling Group which processes may benefit from early interactions (i.e. before results are published) with MC authors, and authorizes discussions with specified MC authors by individuals or physics groups. The Physics Coordinator also decides which internal plots and results can be shown in these discussions (see below). In no case will direct access to ATLAS data be given.

The plots and results discussed with MC authors must have been endorsed by the Physics Coordinator, to make sure that the results are solid and stable enough, and that they are not of a “sensitive nature”.

The MC authors with whom discussions about internal material are undertaken are formally asked (through a mail from the Physics Coordinator or a delegate in copy to the Spokesperson) to maintain confidentiality about these discussions.

MC authors interacting with ATLAS may be acknowledged in the relevant paper(s) if they have made significant contributions.

2. Collaboration with Analysis Consultants and Experts (ACE)

This form of collaborative work between ATLAS members and non-ATLAS physicists concerns studies which do not involve direct analysis of real data, but do use ATLAS Monte Carlo simulations and also involve discussions of the presentation of results. Typically, such work would involve establishing ATLAS' sensitivity to new physics models or the optimisation of an ATLAS analysis (ongoing or planned) to these models – the non-ATLAS physicist would be an expert on the specific hypotheses being explored. Another use case could be the development of tools to reconstruct specific event properties, where the non-ATLAS physicist would provide ideas or confirmed expertise. The non-ATLAS collaborator would not have access to real ATLAS data or access to ATLAS internal web pages - such general access requires a short-term association.

As ATLAS software and simulated event samples will be used in the work, results may not be made public, or discussed further outside ATLAS, except in accordance with the ATLAS approval procedures. The non-ATLAS members do not have direct access to ATLAS simulated event samples or software (e.g. they do not run analysis jobs in the ATLAS computing framework), but they can analyse derived simulated data (e.g., in form of standalone ntuples or histograms) and they may participate in discussions of the analysis work being done by ATLAS members, including discussions of analysis strategies, plots, expected and real data results. They may attend the part of an ATLAS meeting where the relevant analysis is discussed.

In some cases sensitivity studies may be of sufficient interest to lead to the writing of an ATLAS PUB note, or to be used for a result published in an ATLAS paper. If the work of the non-ATLAS physicist has contributed to an ATLAS public document, this contribution can be recognised in form of (1) citation of the work published by the non-ATLAS physicist, (2) explicit acknowledgment in the document, and (3) co-authorship. The latter case requires a major contribution and approval by the Physics Coordinator and the Spokesperson after consultation with the paper editors and the chairs of the Publication and Authorship Committees. The non-ATLAS physicists involved should respect the confidentiality of the work done in collaboration with ATLAS before ATLAS approval.

When such work is started, it is the responsibility of the participating ATLAS members to obtain prior approval from the Physics Coordinator. This should be done even if, at the start of the work, it is unclear if it will proceed to a public document. The Physics Coordinator will keep a list (accessible to all ATLAS members) of such work in progress.

When such work is terminated, the Physics Coordinator should also be informed.

3. Short-Term Association with ATLAS (STA)

Introduction

It is likely that ATLAS may wish to collaborate with groups or individuals that are not members of ATLAS for specific scientific or technical topics requiring access to ATLAS data. These collaborations will typically lead to a dedicated paper including co-authorship on that publication. Examples include:

- Short-term visitors not associated with an ATLAS institution.
- Theory groups or individuals that wish to collaborate on a dedicated study.
- LHC accelerator physicists collaborating to combine machine instrumentation and ATLAS capability to establish a precise estimate of the beam properties.

Guidelines

Formal short-term associations shall normally be limited to the cases where an external person or group brings expertise that is not resident within the ATLAS collaboration. The external group or individual should provide a major contribution to the analysis leading to a given publication or to the writing of the paper.

The final decision on whether a formal short-term association should be undertaken shall rest with the Collaboration Board, acting on a recommendation from the ATLAS Spokesperson. The Spokesperson is expected to establish that there is strong support for the recommendation within the ATLAS community by the following procedure:

1. A written proposal shall be prepared explaining the expertise of the STA candidates(s), why direct access to ATLAS data is required and what the benefit is for the ATLAS collaboration.
2. The proposal shall be discussed and approved at an Executive Board meeting. This requires in particular for theory contributions that the Physics Coordinator supports the proposal.
3. If step 2 is passed, the ATLAS Spokesperson and CB Chair shall circulate the proposal to the CB for endorsement. The vote may be undertaken by e-mail.