

ATLAS Proposal Form Worksheet

This worksheet shows all questions in the electronic ATLAS proposal form. Users may utilize this worksheet to gather the necessary information in preparation for submitting the electronic form.

This worksheet will not be accepted as a substitute for the electronic ATLAS proposal form.

For question please contact Daniel Santiago-Gonzalez (dsg@anl.gov).

* Required

1. Email *

2. PI last name *

3. PI first and middle name *

Co-PI (alternate)

4. Co-PI email address

5. Co-PI last name

6. Co-PI first and middle name

7. Who is filling this form? *

Mark only one oval.

PI

Co-PI

Other: _____

PI
demographics

The information contained in this sections will not be part of the proposal review process and will not be made public. Rather, the information collected here will be aggregated and used, for example, to track success rate of various groups.

8. PI gender *

Mark only one oval.

Female

Male

Prefer not to say

Other: _____

9. PI career level *

Mark only one oval.

Graduate student

Early career (less than 10 years after PhD)

Mid career (10+ years after PhD)

Senior (20+ years after PhD)

Prefer not to say

Other

10. Has the PI submitted another proposal to a previous ATLAS PAC? *

Mark only one oval.

- Yes, as PI *Skip to question 11*
- Yes, as Co-PI *Skip to question 11*
- No *Skip to question 18*
- Don't know *Skip to question 18*
- Prefer not to say *Skip to question 18*

Previous ATLAS PAC cycles

11. From the last 3 ATLAS PAC cycles, select the ones for which you have submitted a proposal as PI or Co-PI *

Select all that apply.

Check all that apply.

- Mar/2021
- Mar/2020
- Mar/2019
- Don't remember

12. From the selected PAC cycles, has any of your proposals been approved? *

Think only of the proposals in which you have been the PI or Co-PI

Mark only one oval.

- Yes, and we also ran at least one experiment *Skip to question 13*
- Yes, but we have not run any experiment *Skip to question 18*
- No *Skip to question 18*

Status of your previous ATLAS experiments

PAC cycles: Mar/2021, Mar/2020, Mar/2019.

13. From the selected PAC cycles in the previous section, have your ATLAS experiment(s) produced any student dissertations? *

Mark only one oval.

Yes

No

14. Please provide links to the dissertations

15. From the selected PAC cycles in the previous section, have your ATLAS experiment(s) produced any publications? *

Mark only one oval.

Yes

No

16. Please provide links to the publications

17. Status of unpublished data from your latest ATLAS experiment *

Think about the data from the last ATLAS experiment that ran for which you were PI or Co-PI

Mark only one oval.

- Manuscript submitted
- Manuscript in preparation
- On-going data analysis
- Data is not publishable - beam or technical issues
- Data is not publishable - other reasons
- Latest approved proposal has not been scheduled
- Not applicable
- Other: _____

Proposal type and beam time request

18. Please select the proposal type *

NOTES: select "Re-submission" if the same physics case of present proposal was reviewed at a previous ATLAS PAC meeting. Select "Letter of intent" to motivate the development of a new capability or to implement a significant technical change at ATLAS. Some examples are: development of a new beam (stable, in-flight, long-lived radioactive), significantly modify existing device, development of a new detector, etc. Some LOIs may request no beam time (0 days).

Mark only one oval.

- New proposal
- Re-submission
- Letter of intent

19. Proposal title *

20. Is the proposed experiment part of a student thesis/dissertation? *

Mark only one oval.

- Yes
- No

Beam time request

21. Total number of days requested for your experiment *

You may use 0 days, for example, if this is a letter of intent.

22. Is beam tuning time included in your request? *

If it is not included, ATLAS operations typically assigns 1 day for stable, long-lived or low-energy CARIBU beams, and 2 days for in-flight or reaccelerated CARIBU beams

Mark only one oval.

Yes

No

23. Is this one continuous run? *

In other words, are all requested days consecutive?

Mark only one oval.

Yes *Skip to question 26*

No *Skip to question 24*

Beam time splitting

24. Please specify desired splitting of days *

For example, 2+3 indicates 5 days are split into 2 non-consecutive periods of 2 and 3 days

25. Days between runs? *

Please indicate how many days ought to be left between each run. A number is expected as answer but text is allowed if needed.

Beam specifications

26. Beam type *

See <https://www.anl.gov/atlas/available-beams> for more details. For long-lived radioactive beams extracted directly from the ECR ion sources (e.g. 14C, 85Kr, 223Ra), please select "Long-lived radioactive".

Mark only one oval.

- Stable *Skip to question 46*
- Long-lived radioactive *Skip to question 41*
- In-flight (RAISOR) *Skip to question 27*
- Reaccelerated CARIBU/nuCARIBU *Skip to question 34*
- Low-energy CARIBU/nuCARIBU *Skip to question 53*
- No beam (using only radioactive sources e.g. 67Cu, 252Cf) *Skip to question 52*

In-flight beams

On-target specifications for in-flight (RAISOR) beams. See <https://www.anl.gov/atlas/inflight-radioactive-beams> for a list of possible beams. Contact Calem Hoffman (crhoffman@anl.gov) for more details.

Primary beam(s) and production target(s) will be selected by ATLAS operations and PHY staff based on the specified secondary beam.

Please separate specifications of multiple beams with commas.

27. In-flight (radioactive) beam species *

Example: 18F, 26Al

28. In-flight beam designation *

Use the table in the following website to get the beam designation: <https://www.anl.gov/atlas/inflight-radioactive-beams>

Mark only one oval.

- Available
- Expected
- Not shown in table

29. Energy units *

Mark only one oval.

- MeV
- MeV/u

30. Energy *

On-target beam energy. A number is expected as answer, however text is allowed in case you need to make comments (this is not common). The beam energy units will be taken from your selection in the previous question.

31. Intensity (pps) *

Preferred format: 5.0E+4. Use the table in the following website to see the maximum available/expected intensity (rate): <https://www.anl.gov/atlas/inflight-radioactive-beams>

32. Minimum purity (%) *

What is the minimum beam purity needed to achieve your physics goals? Use the table in the following website to see the expected purity for your beam: <https://www.anl.gov/atlas/inflight-radioactive-beams>. If you have questions about the beam contaminants, please contact Caleb Hoffman (crhoffman@anl.gov).

33. In addition to the in-flight and primary beam(s) above, do you need other stable beam(s)? *

Mark only one oval.

Yes Skip to question 46

No Skip to question 50

Skip to question 52

Reaccelerated
CARIBU/nuCARIBU
beams

On-target specifications for reaccelerated CARIBU/nuCARIBU beam(s). See <https://www.anl.gov/atlas/caribu-beams> for a list of available beams and their expected intensity. Please separate specifications of multiple beams with commas.

34. Source *

Check all that apply.

CARIBU (252Cf)

nuCARIBU

35. Nuclide(s) *

36. Energy units *

Mark only one oval.

MeV

MeV/u

37. Reaccelerated beam energy *

On-target beam energy. A number is expected as answer, however text is allowed in case you need to make comments (this is not common). The beam energy units will be taken from your selection in the previous question.

38. Intensity (pps) *

Preferred format: 5×10^4

39. Need the MRTOF device to suppress isobaric contaminants? *

The Multi-Reflection Time-Of-Flight (MRTOF) device can significantly suppress isobaric contaminants but will reduce the beam intensity by a factor of 3 to 5.

Mark only one oval.

Yes

No

40. In addition to the CARIBU/nuCARIBU beam(s) above, do you need other stable beam(s)? *

Mark only one oval.

Yes Skip to question 46

No Skip to question 50

Skip to question 50

Long-lived
radioactive
beams

On-target specifications for long-lived radioactive beam(s) extracted directly from the ECR3 ion source. For more information please email Daniel Santiago (dsg@anl.gov).

41. Nuclide(s) *

Check all that apply.

- 14C
 85Kr
 223Ra

Other: _____

42. Energy units *

Mark only one oval.

- MeV
 MeV/u

43. Energy *

On-target beam energy. A number is expected as answer, however text is allowed in case you need to make comments (this is not common). The beam energy units will be taken from your selection in the previous question.

44. Intensity (pnA) *

On-target beam intensity in particle nano Amperes (pnA). A number is expected as answer, however text is allowed in case you need to make comments or if you need to use units other than pnA (this is not common). Note: 1 pnA = 6.25×10^9 ions/sec

45. In addition to the long-lived radioactive beam(s) above, do you need other stable beam(s)? *

Mark only one oval.

- Yes *Skip to question 46*
 No *Skip to question 50*

Skip to question 50

Stable
beams

On-target specifications for stable beam(s) extracted directly from the ECR2 or ECR3 ion sources. Please separate specifications of multiple beams with commas. For more information see <https://www.anl.gov/atlas/stable-beams> or contact Daniel Santiago (dsg@anl.gov).

46. Nuclide(s) *

47. Energy units *

Mark only one oval.

MeV

MeV/u

48. Energy *

On-target beam energy. A number is expected as answer, however text is allowed in case you need to make comments (this is not common). The beam energy units will be taken from your selection in the previous question.

49. Intensity (pnA) *

On-target beam intensity in particle nano Amperes (pnA). A number is expected as answer, however text is allowed in case you need to make comments or if you need to use units other than pnA (this is not common). Note: 1 pnA = 6.25×10^9 ions/sec

Skip to question 50

Special
beam
timing
options

Our accelerator delivers the heavy-ion beams in "buckets", with a period of ~82 ns. Within one bucket, the beam particles are typically concentrated in a few ns. The devices in this section provide additional control of the beam timing structure. However most experiments do not require such precise control.

50. Primary beam sweeper *

Not used in most experiments. Located near the low-energy side of the accelerator, this device can let through or remove ("sweep") different primary beam bunches (each bunch is ~82 ns wide). This is not the RIB sweeper. For more details on the capabilities of the beam sweeper, please contact Daniel Santiago (dsg@anl.gov).

Mark only one oval.

Yes

No

51. Rebuncher/Debuncher *

Not used in most experiments. This device allows for some control over the beam time structure within a beam bucket. It is typically used to narrow the beam pulse width. For details on the capabilities of the rebuncher, please contact Daniel Santiago (dsg@anl.gov).

Mark only one oval.

Yes

No

Skip to question 52

Experimental devices and end stations

Please select the experimental devices or end stations to be used in your experiment (may select more than one)

52. Equipment *

Check all that apply.

ATSCAT

AGFA

BPT

CPT

FMA

Gammasphere

HELIOS

MicroBall

MUSIC

Neutron Shell

N=126 factory

Split-Pole Spectrometer

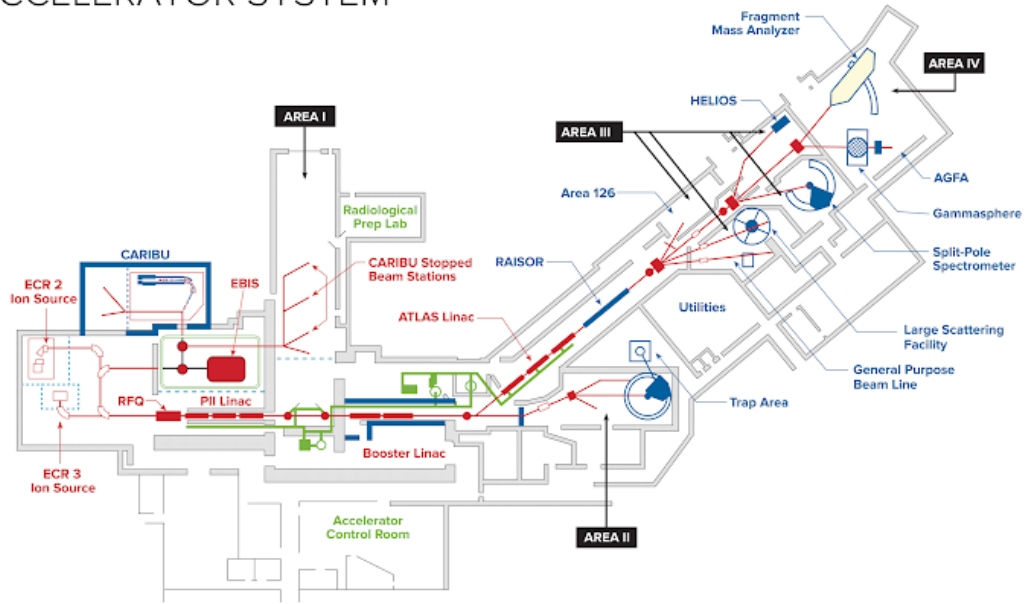
X-array

Other: _____

ATLAS floorplan

If needed, use floor plan below to identify equipment location or go to <https://www.anl.gov/atlas/reference/atlas-facility-layout-with-beam-locations>. Notes: 1) Gammasphere can be moved between FMA and AGFA beam lines. 2) The N=126 factory is located in the room labeled "Area 126". 3) The ATSCAT chamber is located in the room labeled "Large Scattering Facility". 4) MUSIC is located in the room labeled Split-Pole Spectrometer. 5) The Beta Paul Trap (BPT) is located in the room labeled "Trap Area". 6) Low-energy beams from CARIBU/nuCARIBU are delivered to target AREA I.

ATLAS ARGONNE TANDEM LINAC ACCELERATOR SYSTEM



Skip to question 59

Low-Energy
CARIBU
and
nuCARIBU
beams

See <https://www.anl.gov/atlas/caribu-beams> for a list of available beams with intensity estimates. Please separate specifications of multiple beams with commas. Typical beam energies are 2 kV (CARIBU/nuCARIBU area) or 25 kV (Target area 1, variable energy). For more details contact Guy Savard (savard@anl.gov) or Daniel Santiago (dsg@anl.gov).

53. Source *

Check all that apply.

- CARIBU (252Cf)
 nuCARIBU

54. Nuclide(s) *

55. Intensity (pps)

Leave blank if using estimated intensities from our website (<https://www.anl.gov/atlas/caribu-beams>)

56. Need the MRTOF device to suppress isobaric contaminants? *

The Multi-Reflection Time-Of-Flight (MRTOF) device can significantly suppress isobaric contaminants but will reduce the beam intensity by a factor of 3 to 5.

Mark only one oval.

Yes

No

57. Experiment end station *

Please select the detector system(s) or end station(s) to be used in your experiment (may select more than one)

Check all that apply.

CPT

MTAS

SuN

X-array

Other: _____

58. In addition to the CARIBU beam(s) above, do you need other stable beam(s)? *

Mark only one oval.

Yes *Skip to question 46*

No

Skip to question 59

Target and
beam stop
specifications

Form more information on available targets see the Center for Accelerator Target Science (CATS) website at <https://www.anl.gov/phy/center-for-accelerator-target-science> or contact Matthew Gott (mgott@anl.gov).

59. Target material(s) *

60. Target thickness (mg/cm²)

For solid targets

61. General target specifications *

Select all that apply for your required target

Check all that apply.

- is provided by CATS or ATLAS
- is provided by user
- new targets could be made from "natural" material (no enrichment)
- enriched material is preferred for new targets
- is radioactive
- is in gas form
- is installed on a rotating wheel

62. Beam stop material(s) *

Common beam stop materials: Al, Ta, Fe. Select all that apply.

Check all that apply.

- Not applicable
- Aluminium
- Iron
- Tantalum

Other: _____

Safety

Does your experiment require ...

63. 1. use of flammable gases? *

Mark only one oval.

- Yes
- No

64. 2. lift of heavy equipment? *

If the load weighs in excess of 50 lbs, is awkward or hard to handle or requires the use of crane, please select Yes

Mark only one oval.

Yes

No

65. 3. use of electrical equipment from outside ATLAS? (exclude computers) *

Mark only one oval.

Yes Skip to question 66

No Skip to question 68

External electrical
equipment

Include any high voltage or high power electrical equipment that would be added to the existing experimental station or beam line

66. Describe electrical equipment *

67. Maximum voltage required (V)

Safety (cont.)

Does your experiment require ...

68. 4a. use of ATLAS owned calibration sources?

Select all that apply

Check all that apply.

- Gamma-ray sources (Example: 88Y, 56,57,60Co, 152Eu, 182Ta, 243Am with less than 10 micro-Ci)
- Alpha sources (Example: 228Th, GdCm with less than 10 micro-Ci)
- Fission source

69. 4b. radioactive materials from outside ATLAS? *

Sources, targets, etc.

Mark only one oval.

- Yes *Skip to question 70*
- No *Skip to question 73*

External radioactive materials

70. Describe radioactive material(s) *

In addition to the description, please indicate if material will be used as target, as source or for other purpose.

71. Type of ionizing radiation

Check all that apply.

- alpha
- beta
- gamma
- neutron

72. Total activity (Bq)

alpha + beta + gamma + neutron in Becquerel (1 Bq = 2.7e-11 Ci)

Safety (cont.)

Does your experiment require ...

73. 5. other unusual operations? *

Mark only one oval.

Yes Skip to question 74

No Skip to section 22 (Wrapping up (click "Submit" button to finish))

Unusual operations

74. Describe unusual safety operations or requirements *

Wrapping up (click
"Submit" button to
finish)

Remember to click the Submit button below and to send your proposal manuscript via a separate email to atlas-proposals@anl.gov. We will confirm reception of your file within 3 days.

Please read before submitting

By clicking 'Submit' you certify that the information presented on this form is correct and that all of the collaborators listed on your proposal have agreed to participate in the experiment.

This content is neither created nor endorsed by Google.

Google Forms