

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. PI last name *

2. PI first and middle name *

Co-PI (alternate)

3. Co-PI email address

4. Co-PI last name

5. Co-PI first and middle name

Proposal background information

6. Was this proposal submitted to a previous ATLAS PAC? *

Mark only one oval.

Yes Skip to question 7

No Skip to question 12

Previous proposal information

7. Previous proposal title

8. PI last name of the previous proposal

9. Previous proposal assigned number

Example: 1765

10. PAC cycle of the previous proposal submission

Mark only one oval.

Mar/2020

Mar/2019

Mar/2018

May/2017

Oct/2016

Nov/2015

Mar/2015

Sep/2014

Other: _____

11. Summary of results from previous proposal *

Please summarize any previous results and/or publications by the group related to the proposed experiment

New proposal submission

12. Proposal title *

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

Mark only one oval.

Yes

No

Beam time request

14. Total number of days requested for your experiment *

15. 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

16. Is this one continuous run? *

In other words, are all requested days consecutive?

Mark only one oval.

Yes Skip to question 18

No Skip to question 17

Beam time splitting

17. 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

Beam specifications

18. Beam type *

See <https://www.anl.gov/atlas/available-beams> for more details. For long-lived radioactive beams extracted directly from the ECR2 or ECR3 ion sources, e.g. 14C, please select "Long-lived radioactive".

Mark only one oval.

Stable Skip to question 37

Long-lived radioactive (from ECR3) Skip to question 32

In-flight (RAISOR) Skip to question 19

Reaccelerated CARIBU Skip to question 26

Low-energy CARIBU Skip to question 44

No beam (using only radioactive sources e.g. 67Cu, 252Cf) Skip to question 43

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.

19. In-flight (radioactive) beam species *

Example: 18F, 26Al

20. 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

21. Energy units *

Mark only one oval.

- MeV
- MeV/u

22. 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.

23. 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>

24. 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 Calem Hoffman (crhoffman@anl.gov).

25. 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 37
- No Skip to question 41

Reaccelerated
CARIBU
beams

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

26. CARIBU beam(s) *

27. Energy units *

Mark only one oval.

MeV

MeV/u

28. Reaccelerated 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.

29. Intensity (pps) *

Preferred format: 5×10^4

30. 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

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

Mark only one oval.

Yes Skip to question 37

No Skip to question 41

Skip to question 41

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).

32. Nuclide(s) *

Check all that apply.

¹⁴C

Other: _____

33. Energy units *

Mark only one oval.

MeV

MeV/u

34. 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.

35. Intensity (pnA) *

1 particle nano-Ampere (pnA) = 6.25×10^9 ions/sec

36. 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 37

No Skip to question 41

Skip to question 41

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).

37. Nuclide(s) *

38. Energy units *

Mark only one oval.

MeV

MeV/u

39. 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.

40. Intensity (pnA) *

1 particle nano-Ampere (pnA) = 6.25×10^9 ions/sec

Skip to question 41

Additional beam requirements

41. Beam sweeper *

Not used in most experiments. This device can remove (primary) beam bunches from the accelerator RF pulses. 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

42. Rebuncher/Debuncher *

Not used in most experiments. This device allows for some control over the beam time structure within a beam bunch. 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 43

Experiment end
station

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

43. Equipment *

Check all that apply.

ATSCAT

AGFA

BPT

CHICO2

FMA

Gammasphere

GODDESS

GRETINA

HELIOS

MicroBall

MUSIC

Neutron Shell

Split-Pole Spectrometer

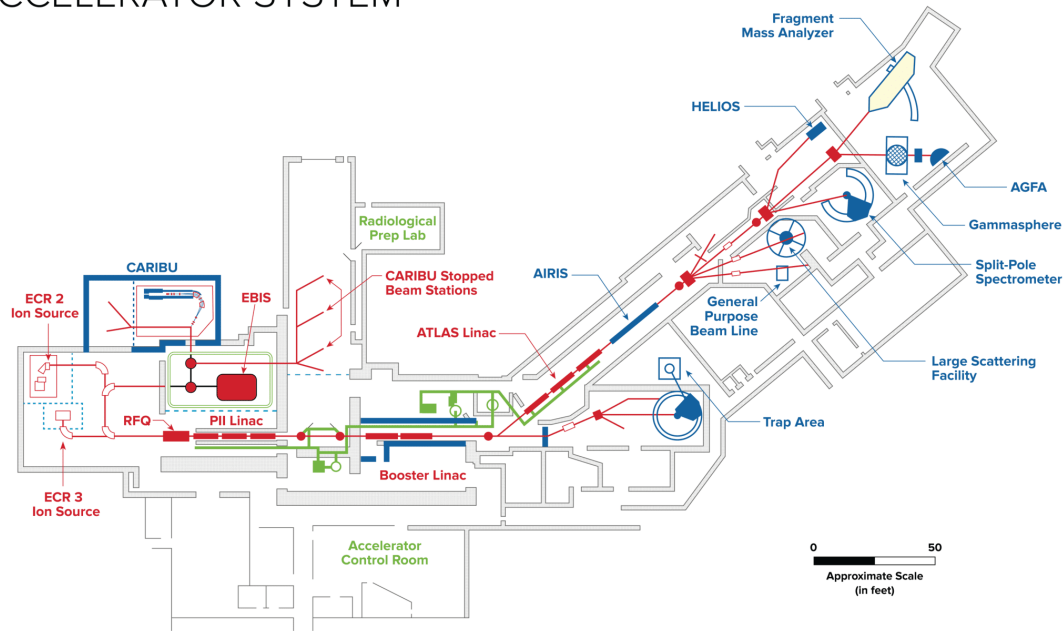
X-array

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) For this PAC cycle GRETINA will be located in the FMA beam line. 2) Gammasphere can be moved between FMA and AGFA beam lines. 3) The ATSCAT chamber is located in the Large Scattering Facility. 4) MUSIC is located in the area labeled Split-Pole Spectrometer. 5) AIRIS was the project name for the RAISOR system. 6) The Beta Paul Trap is located in the Trap Area.

ATLAS ARGONNE TANDEM LINEAR ACCELERATOR SYSTEM



Skip to question 49

Low-
Energy
CARIBU
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 target area) or 25 kV (Target area 1, variable energy). For more details contact Guy Savard (savard@anl.gov) or Daniel Santiago (dsg@anl.gov).

44. Nuclide(s) *

45. Intensity (pps)

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

46. 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

47. 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: _____

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

Mark only one oval.

Yes Skip to question 37

No

Skip to question 49

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 John Greene (greene@anl.gov)

49. Target material(s) *

50. Target thickness (mg/cm²)

For solid targets

51. General target specifications *

Select all that apply for your required target

Check all that apply.

- is readily available at CATS or ATLAS
- needs to be made at CATS (new target)
- needs enriched material
- is provided by user
- is radioactive
- is in gas form
- is installed on a rotating wheel

52. 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 ...

53. 1. use of flammable gases? *

Mark only one oval.

- Yes
- No

54. 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

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

Mark only one oval.

Yes Skip to question 56

No Skip to question 58

External electrical
equipment

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

56. Describe electrical equipment *

57. Maximum voltage required (V)

Safety (cont.)

Does your experiment require ...

58. 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

59. 4b. radioactive materials from outside ATLAS? *

Sources, targets, etc.

Mark only one oval.

Yes Skip to question 60

No Skip to question 63

External radioactive materials

60. Describe radioactive material(s) *

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

61. Type of ionizing radiation

Check all that apply.

alpha

beta

gamma

neutron

62. Total activity (Bq)

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

Safety (cont.)

Does your experiment require ...

63. 5. other unusual operations? *

Mark only one oval.

Yes Skip to question 64

No Skip to section 20 (Wrapping up)

Unusual operations

64. Describe unusual safety operations or requirements *

Wrapping
up

Remember 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.

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