EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH

[Proposal/Addendum/Letter of Intent ...] to the ISOLDE and Neutron Time-of-Flight Committee

Title

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Spokesperson: [name] [email]
Contact person: [name] [email]

Abstract: The maximum length of the main body of the document is 6 pages (excluding cover page, references but including figures and tables). Don't forget to fill in the appendices with details for the Technical Advisory Committee. Please do not hesitate to contact the technical teams with your questions and doubts.

Summary of requested shifts: [x] shifts, (split into [y] runs over [z] years)

1 Section 1

Please follow the proposed structure and do not exceed the maximal length of 6 pages for the second part:

1. Cover page: Title, authors, affiliations, spokeperson(s), contact person, abstract, summary of requested shifts
2. Description of the proposal, divided into sections. **The maximum length of this part is 6 pages, including figures and tables.**
3. References
4. Details for the Technical Advisory Committee. Please do not hesitate to contact the technical teams with your questions and doubts.

1.1 What is a Letter of Intent?

Letters of Intent are meant for activities such as beam development, tests to prepare for full proposals or seeking preliminary endorsement of a project by the INTC for funding reasons. **The requested number of shifts should not exceed 10 shifts.** A larger number can be considered in exceptional and well-motivated cases.

2 Section 2

References

3 Details for the Technical Advisory Committee

3.1 General information

Describe the setup which will be used for the measurement. If necessary, copy the list for each setup used.

☒ Permanent ISOLDE setup: *Name (e.g. CRIS, IDS, Miniball, etc.)*

- ☒ To be used without any modification
- ☐ To be modified: *Short description of required modifications.*

☐ Travelling setup (*Contact the ISOLDE physics coordinator with details.*)

- ☐ Existing setup, used previously at ISOLDE: *Specify name and IS-number(s)*
- ☐ Existing setup, not yet used at ISOLDE: *Short description*
- ☐ New setup: *Short description*

3.2 Beam production

For any inquiries related to this matter, reach out to the target team and/or RILIS (please do not wait until the last minute!). For Letters of Intent focusing on element (or isotope) specific beam development, this section can be filled in more loosely.

- Requested beams:

Isotope	Production yield in focal point of the separator (/μC)	Minimum required rate at experiment (pps)	$t_{1/2}$
Isotope 1 Isotope 2 Isotope 3			

- Full reference of yield information (*e.g. yield database, elog entry, previous experiment number, extrapolation and/or justified scaling factors, target number*)
- Target - ion source combination:
- RILIS? (*No/Yes/for element A but not for element B*)
  - ☐ Special requirements: (*isomer selectivity, LIST, PI-LIST, laser scanning, laser shutter access, etc.*)
- Additional features?
  - ☒ Neutron converter: (*for isotopes 1, 2 but not for isotope 3.*)
  - ☐ Other: (*quartz transfer line, gas leak for molecular beams, prototype target, etc.*)
- Expected contaminants: *Isotopes and yields*

- Acceptable level of contaminants: (*Not sensitive to stable contaminants, limited by ISCOOL overfilling, etc.*)
- Can the experiment accept molecular beams?
- Are there any potential synergies (same element/isotope) with other proposals and LOIs that you are aware of?

3.3 HIE-ISOLDE

For any inquiries related to this matter, reach out to the ISOLDE machine supervisors (please do not wait until the last minute!).

- HIE ISOLDE Energy: *(MeV/u); (exact energy or acceptable energy range)*
  - ☒ Precise energy determination required
  - ☐ Requires stable beam from REX-EBIS for calibration/setup? *Isotope?*
- REX-EBIS timing
  - ☒ Slow extraction
  - ☐ Other timing requests
- Which beam diagnostics are available in the setup?
- What is the vacuum level achievable in your setup?

3.4 Shift breakdown

The beam request only includes the shifts requiring radioactive beam, but, for practical purposes, an overview of all the shifts is requested here. Don't forget to include:

- Isotopes/isomers for which the yield need to be determined
- Shifts requiring stable beam (indicate which isotopes, if important) for setup, calibration, etc. Also include if stable beam from the REX-EBIS is required.

An example can be found below, please adapt to your needs. Copy the table if the beam time request is split over several runs.

Summary of requested shifts:

With protons	Requested shifts
Yield measurement of isotope 1 Optimization of experimental setup using isotope 2 Data taking, isotope 1 Data taking, isotope 2 Data taking, isotope 3 Calibration using isotope 4	
Without protons	Requested shifts
Stable beam from REX-EBIS (after run) Background measurement	

3.5 Health, Safety and Environmental aspects

3.5.1 Radiation Protection

- If radioactive sources are required:
  - Purpose?
  - Isotopic composition?
  - Activity?
  - Sealed/unsealed?
- For collections:
  - Number of samples?
  - Activity/atoms implanted per sample?
  - Post-collection activities? (*handling, measurements, shipping, etc.*)

3.5.2 Only for traveling setups

- Design and manufacturing
  - ☒ Consists of standard equipment supplied by a manufacturer
  - ☐ CERN/collaboration responsible for the design and/or manufacturing
- Describe the hazards generated by the experiment:

Domain	Hazards/Hazardous Activities		Description
Mechanical Safety	Pressure	☐	[pressure] [bar], [volume][l]
	Vacuum	☐	
	Machine tools	☐	
	Mechanical energy (moving parts)	☐	
	Hot/Cold surfaces	☐	
Cryogenic Safety	Cryogenic fluid	☐	[fluid] [m3]

Electrical Safety	Electrical equipment and installations	☐	[voltage] [V], [current] [A]
	High Voltage equipment	☐	[voltage] [V]
Chemical Safety	CMR (carcinogens, mutagens and toxic to reproduction)	☐	[fluid], [quantity]
	Toxic/Irritant	☐	[fluid], [quantity]
	Corrosive	☐	[fluid], [quantity]
	Oxidizing	☐	[fluid], [quantity]
	Flammable/Potentially explosive atmospheres	☐	[fluid], [quantity]
	Dangerous for the environment	☐	[fluid], [quantity]
Non-ionizing radiation Safety	Laser	☐	[laser], [class]
	UV light	☐	
	Magnetic field	☐	[magnetic field] [T]
Workplace	Excessive noise	☐	
	Working outside normal working hours	☐	
	Working at height (climbing platforms, etc.)	☐	
	Outdoor activities	☐	
Fire Safety	Ignition sources	☐	
	Combustible Materials	☐	
	Hot Work (e.g. welding, grinding)	☐	
Other hazards			