Proposal Number (User Support Office use only)

Date:

# Proposal for Nuclear Physics Experiment at RI Beam Factory

(RIBF NP-PAC-25, 2024)

| Title of Experiment |  |
|---------------------|--|
| Category            | [] NP experiment [] Detector R&D [] Construction   [] Update proposal (Experimental Program: NP) |
|                     | [ ] Proposal for scientific program  |
| Exportmontol        | [] GARIS [] RIPS [] CRIB [] KISS   |
| Dovicos             | [] BigRIPS [] Zero Degree [] SHARAQ [] OEDO  |
| Devices             | [] RI Ring [] SAMURAI  |
| Detectors           | [] DALI2 [] GRAPE  |

## Spokesperson (Only one person, multiple spokespersons not accepted) :

| Name              |     |
|-------------------|-----|
| Institution       |     |
| Title of position |     |
| Address           |     |
| Tel               | Fax |
| Email             |     |

#### **Co-Spokesperson** (If any):

| Name              |     |
|-------------------|-----|
| Institution       |     |
| Title of position |     |
| Address           |     |
| Tel               | Fax |
| Email             |     |

## **In-House Contact Person** (If any):

| Name              |     |
|-------------------|-----|
| Institution       |     |
| Title of position |     |
| Address           |     |
| Tel               | Fax |
| Email             |     |

## Beam Time Request Summary:

Please indicate requested beam times of  $T_{User-Tuning} \& T_{User-Data Run}$  only.  $T_{BigRIPS}$  and Total times will be given by RIKEN.

|                    | <b>T</b> BigRIPS :<br>Tuning time with BigRIPS for secondary<br>beam settings                                     | (User Support Office use only) | Days |
|--------------------|---|--------------------------------|------|
| Total<br>Beam Time | <b>Tuser-Tuning :</b><br>Tuning time for users' own equipment and/or<br>detectors using primary / secondary beams |                                | Days |
|                    | <b>T<sub>User-Data</sub> Run:</b><br>Beam-time for data runs  |                                | days |
|                    | TOTAL   | (User Support Office use only) | days |

## Beam summary

#### Primary Beam:

| Particle Energy (E/A MeV) Intensity (pnA) | <u> </u> |        |                    |           |       |
|---|----------|--------|--------------------|-----------|-------|
|   | Particle | Energy | ( <i>E</i> /A MeV) | Intensity | (pnA) |

#### Secondary Beams:

| RI Beams |                             |                         |                              | Beam-on-Target Time for DATA RUN |
|----------|-----------------------------|-------------------------|------------------------------|----------------------------------|
| Isotope  | Energy<br>( <i>E/A</i> MeV) | Rate of<br>Isotope (/s) | Total Beam Rate<br>@ F3 (/s) | Days                             |
|          |                             |                         |                              |                                  |
|          |                             |                         |                              |                                  |
|          |                             |                         |                              |                                  |
|          |                             |                         |                              |                                  |
|          |                             |                         |                              |                                  |

Fill each row for each BigRIPS setting, with objective isotope, its energy, rate, and total beam rate which cannot exceed 10<sup>7</sup>/s in BigRIPS due to radiation regulation.

# Keywords:

| [] | ] New isotope search                          |                        |
|----|---|------------------------|
| [] | ] Lifetime measurement                        |                        |
| [] | ] Mass measurement                            |                        |
| [] | ] Superheavy element                          |                        |
| [] | ] β-γ spectroscopy                            |                        |
| [] | ] In-beam γ-ray spectroscopy                  |                        |
|    | [ ] 2 <sup>+</sup> 1 study                    |                        |
| [] | ] Nucleosynthesis                             |                        |
|    | [] r process [] rp                            | process                |
| [] | ] Nuclear structure                           |                        |
|    | around [] <sup>32</sup> Mg [] <sup>42</sup> S | Si [] <sup>78</sup> Ni |
|    | [ ] <sup>100</sup> Sn [ ] <sup>132</sup>      | Sn [] Others ()        |
| [] | ] Nuclear reaction                            |                        |
| [] | ] Shell evolution                             |                        |
| [] | ] Nuclear moment                              |                        |
| [] | ] Spin-isospin excitation                     |                        |
| [] | ] Nuclear force                               |                        |
| [] | ] Nuclear equation of state                   |                        |
| [] | ] Exotic atom                                 |                        |
| [] | ] Others (                                    | )                      |

#### Readiness

| Estimated date ready to run the experiment |  |
|--|--|
| Dates which should be excluded, if any     |  |

## Summary of Experiments

| Name | Institution | Country of location | Title or position |
|------|-------------|---------------------|-------------------|
|      |             |                     |                   |
|      |             |                     |                   |
|      |             |                     |                   |
|      |             |                     |                   |
|      |             |                     |                   |
|      |             |                     |                   |
|      |             |                     |                   |
|      |             |                     |                   |
|      |             |                     |                   |
|      |             |                     |                   |
|      |             |                     |                   |
|      |             |                     |                   |
|      |             |                     |                   |
|      |             |                     |                   |
|      |             |                     |                   |
|      |             |                     |                   |
|      |             |                     |                   |
|      |             |                     |                   |
|      |             |                     |                   |
|      |             |                     |                   |
|      |             |                     |                   |
|      |             |                     |                   |
|      |             |                     |                   |
|      |             |                     |                   |
|      |             |                     |                   |
|      |             |                     |                   |
|      |             |                     |                   |
|      |             |                     |                   |
|      |             |                     |                   |
|      |             |                     |                   |
|      |             |                     |                   |
|      |             |                     |                   |
|      |             |                     |                   |
|      |             |                     |                   |
|      |             |                     |                   |
|      |             |                     |                   |
|      |             |                     |                   |

# List of Collaborators (including spokesperson)

## Detailed Description of the proposed experiment

Please describe in details about the proposed experiment, where the format is free. They should include;

- 1. Goals and methods of the proposed experiment
- 2. Estimation of beam time requested
- 3. Experimental conditions such as beam conditions, targets and detectors
- 4. Readiness