

AGATA

Advanced Gamma Tracking Array

Memorandum of Understanding

1. Introduction

The “*Advanced Gamma Tracking Array*” (AGATA) is a collaborative European project (hereafter referred to as the “Project” or the “AGATA project”) to construct and operate a gamma-ray tracking spectrometer. It is based on the successful research & development project started in 2003 which demonstrated the feasibility of achieving the ultimate goal of a 4π spectrometer through the technique of gamma-ray energy tracking in electrically segmented Ge detectors. The resulting AGATA spectrometer will have an unparalleled level of detection sensitivity to nuclear electromagnetic radiation. AGATA will allow the pursuit of a very rich science programme using both radioactive and stable ion beams as described in the AGATA Physics Case. To maximize the science output of AGATA, campaigns of experiments with complementary research programmes will be pursued at research facilities within Europe.

The full 4π AGATA system comprises 60 triple Cluster Ge detectors, the associated electronics, data acquisition and related equipment. The system will be built up and operated in phases. The aim of the first phase is to build up and operate 1/3 of the full AGATA system in four years from the date on when this MOU comes into effect. It is the intention to pursue the construction and operation of 2/3 and 3/3 of the full system in subsequent phases.

2. Parties of this MoU

This memorandum of understanding (hereinafter “MoU”) is between the Parties to this MoU (hereinafter “the Parties”). These Parties are listed in annexe A.1. The institutes or institutions forming the AGATA Collaboration are listed in annexe A.2 (hereinafter “the Collaborating Institutions”).

3. Purpose of this MoU

The purpose of this MoU is to specify what the Parties intend with respect to planning, funding, constructing and operating the AGATA project.

This MoU is the non-binding expression of the current intentions of the Parties. None of the Parties will be bound by any legal obligation to the other Parties or incur any associated expense.

The intention of the Parties and/or the Collaborating Institutions as appropriate is to provide the necessary capital and human resources to successfully carry out this project.

The first phase of the project is to operate an AGATA system that is currently planned to consist of twenty AGATA units of which five have already been funded in the R&D phase. Any changes in the scope of the detector system will be agreed at the AGATA steering committee, as described in Annex D.

The items forming the 20 unit AGATA system, their costing, the sharing of the required capital investment and human resources, and the construction schedule and the milestones for the first phase of the Project are given in Annexe B.

Annexe C gives the operation costs for the first four years of the Project. The Parties agree to operate the AGATA system in campaigns of experiments as the units become available.

For the duration of this MoU the AGATA system is expected to be sited for at least 25% of its total operation time each at GANIL/SPIRAL2 (Caen, France), GSI/FAIR (Darmstadt, Germany), LNL/SPES (Legnaro, Italy). The host collaborating institutions GANIL, GSI and LNL (hereinafter “Host” or “AGATA Host”) have agreed to host AGATA. AGATA will be an essential instrument for the future facilities FAIR, SPES and SPIRAL2.

Campaigns at any other host laboratory, in particular outside of the Collaborating Institutions, are subject to negotiations within the AGATA Steering Committee.

Formal letters of agreement between each Host and the AGATA Steering Committee, which represents the Parties as defined in Annexe D, will detail the commitment of the Host and the obligations of the Collaborating Institutions for each campaign.

4. Commencement, Duration, Withdrawal and Extension of the MoU

This MoU will become effective when at least three Parties have signed including at least one Party from a country with a host collaborating institution.

This MoU shall continue in force until 31 December 2015. This MoU may be extended only by an amendment to the MoU.

Any Party may withdraw from the AGATA MoU by giving not less than twelve months notice in writing to the AGATA Steering Committee. It is expected that equipment provided by the Party will remain with AGATA for the period of this MoU.

5. Organisation and Management

The AGATA organisation and the governance bodies for the construction and operation of AGATA are described in Annexe D.

AGATA is an open collaboration. New members may accede to this MoU through a written procedure defined by the AGATA Steering Committee.

6. Amendments and Modification of the MoU

This MoU may be amended or modified at any time in writing if agreed by at least two thirds of the Parties.

7. General Provisions

The Parties will conduct the collaboration in terms of this MoU in compliance with the

applicable laws and regulations. The obligations of each Party and/or Collaborating Institution are subject to the availability of appropriate funds and human resources.

Nothing in this MoU will affect any other agreements concerning cooperation between the Parties (applicable from the date on when this MoU comes into effect).

All questions regarding the interpretation of this MoU will be resolved consensually by the Parties. Any dispute as may arise between the Parties hereto in connection with this MoU, which cannot be resolved amicably between the Parties, shall be finally settled by the Rules of Conciliation and Arbitration of the International Chamber of Commerce by three arbitrators appointed in accordance with the said Rules unless the Parties agree on a single arbitrator. The award of the arbitrator will be final and binding upon the Parties concerned. Proceedings shall be conducted in English.

Information provided by any Party under this MoU and implementing agreements shall be accurate to the best of that Party's knowledge and belief but no warranty, expressed or implied, is given by that Party to such information.

Each Party and/or Collaborating Institution as appropriate takes charge of the insurance coverage for its own staff in accordance with applicable legal requirements for occupational injuries and occupational diseases. Consequently, each party and/or Collaborating Institution as appropriate must fulfil the required formalities and sustain all the costs, if any, involved in the insurances underwritten to cover its own staff against the risks.

Each Party and/or Collaborating Institution as appropriate is liable, in accordance with the applicable law, for damages caused by its staff to the staff of any other Party and/or Collaborating Institution as appropriate.

Each Party and/or Collaborating Institution as appropriate will bear the liability without any right of claim against any other Party and/or Collaborating Institution as appropriate, except in cases of gross negligence or wilful misconduct, for any damage to its own properties resulting from or in the course of fulfilment of this MoU.

Each Party and/or Collaborating Institution as appropriate remains liable, in accordance with the applicable legal regulations, for damages caused by itself or its staff to third Parties occurring under this MoU.

The following documents and annexes are an integral part of this MoU:

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| Annexe A: | List of Parties and Collaborating Institutions |
| Annexe B: | AGATA Equipment, Capital Investment and Installation |
| Annexe C: | AGATA Operation |
| Annexe D: | AGATA Management Structure |

This MoU is drawn up and executed in English, in one original document.