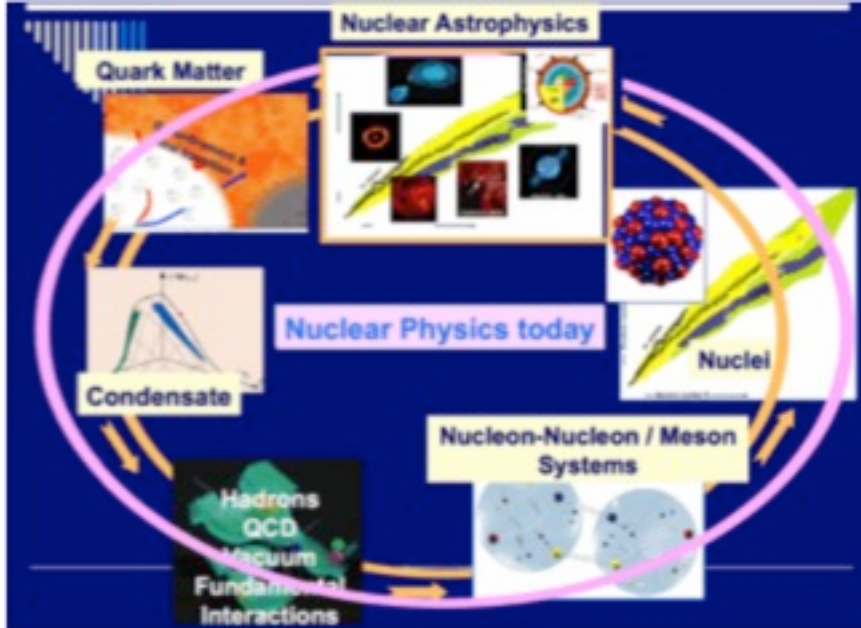


- One part of the volume on Science and **Facilities**
- **Summary and recommendations**
- **6 more detailed chapters** on the achievements and specific plans concerning the different themes of today Nuclear Physics



- 1) **Hadron Physics**
- 2) **Phases of Strongly Interacting Matter**
- 3) **Nuclear Structure & Dynamics**
- 4) **Nuclear Astrophysics**
- 5) **Fundamental Interactions**
- 6) **Nuclear Physics Tools & Applications**

NUPECC LRP 2016 – time line

- NuPECC Meeting **March 11 and 12, 2016:**

 - Status report by NuPECC Liaison of each working group

- NuPECC Meeting **June 17 and 18, 2016:**

 - First draft and presentation by conveners

 - WG3 “in good shape”, update over the summer*

- NuPECC Meeting **October 7 and 8, 2016:**

 - Final report, presentation by and discussion with conveners

The reports of the six WG will then be put on the NuPECC Website together with the other chapters of the LRP and presented and discussed at an open **Town Meeting at GSI Darmstadt January 11 to 13, 2017.**

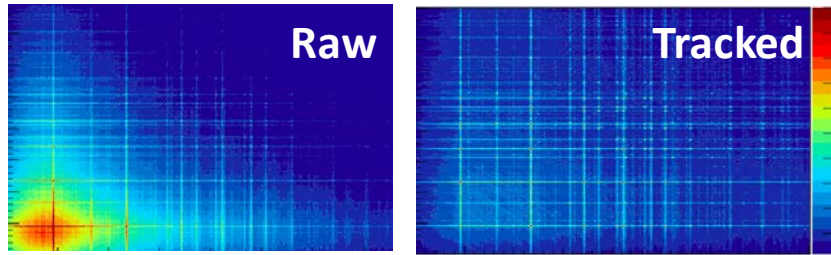
AGATA Working group for NuPECC LRP 2016/17

- In February 2016 ASC asked ACC to create a working group to provide input to the NUPECC LRP 2016/17
- AGATA physics case mainly relevant for
 - WG3 Nuclear structure and reactions
 - **Conveners: Elias Khan (Orsay), John Simpson (Daresbury)**
 - WG4 Nuclear astrophysics
 - **Gabriel Martinez-Piedo (Darmstadt), Alison Laird (York)**
 - Facilities and infrastructure
 - **M. Lewitowicz et al.**
- Ad hoc group organised by J. Nyberg & W. Korten
 - M. Bentley, F. Camera, E. Clement, G. de Angelis, A. Gadea, M. Gorska, W. Korten, J. Nyberg
 - C. Domingo-Pardez, A. Jungclaus, S. Leoni, J. Simpson invited as liaison to NUPECC LRP WGs

AGATA Working group for NuPECC LRP 2016/17

- Phone conferences on February 29th, March 18th
 - nuclear structure section organised in “key questions”
 - coordinate input to (sub-) WG
 - draft of “AGATA box”
- Participation in WG3 meeting April 5th (Orsay)
 - discussion of drafts of sub WG
 - contribution to “instrumentation section” of WG3
- Prepare “AGATA box” for LRP section on facilities and infrastructures

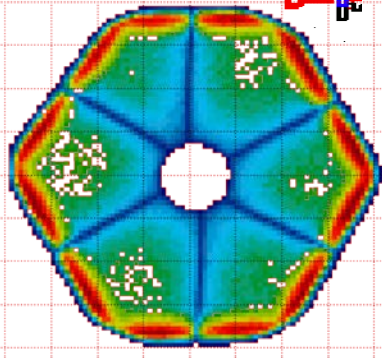
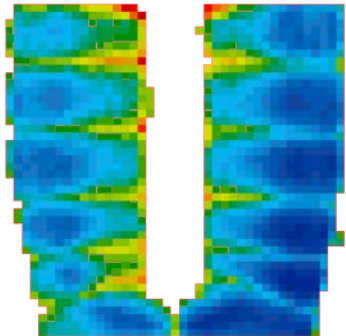
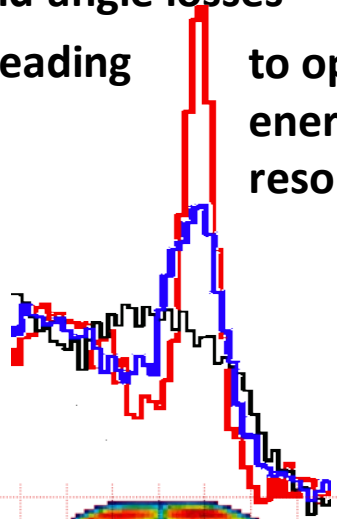
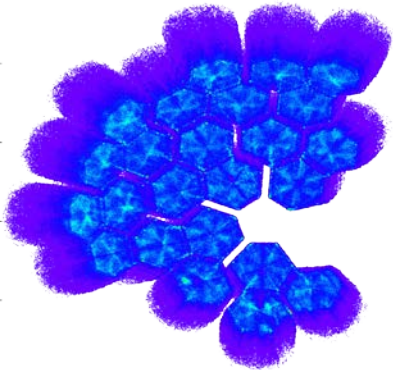
AGATA in the Long Range Plan of NuPECC 2016/17



Excellent full energy response
without solid angle losses

Position sensitivity leading

to optimal
energy
resolution



32 HPGe detector
AGATA array at
GANIL

Understanding photon interactions in Ge detectors

AGATA status and future

- Achievements (technical and scientific)
 - Successful campaigns at LNL, GSI, GANIL
 - Examples in the physics sections (sufficient ?)
- Future beyond 2020 (current MoU: 20 units, 1/3)
 - Construction of phase 2 (40 units, 2/3) for FAIR, SPES and SPIRAL2
 - Physics case for phase 2 (needs to be discussed soon)
 - Input from the community welcome

AGATA status and future

- Since the publication of the last NUPECC LRP in 2010, AGATA has evolved from the **demonstrator**, comprising 5 triple-cluster units, to **the phase-1 array** with 20 units thus covering one third of the full 4π solid angle. This phase should **be completed at the latest by 2020**. Successful **experimental campaigns** have been pursued at **LNL** (2010-11) and **GSI** (2012-14), where the array was coupled with the PRISMA magnetic spectrometer and the GSI fragment separator (FRS), respectively.
- Currently, AGATA is being exploited at **GANIL** (until 2019) using its wide variety of stable and radioactive beams and site-specific **spectrometers as well as state-of-the-art ancillary detectors for charged particles, neutrons and high-energy γ rays** (see figure).
- From 2020 the collaboration plans to extend AGATA up to 40 units thus covering two thirds of 4π . **This array will be a key instrument at the next-generation facilities NUSTAR at FAIR, SPES at LNL and SPIRAL 2 at GANIL.**

Thanks

WG3 Subgroups (SG)

1. Theory (Christian Forssen and Achim Schwenk)

Forssen, Gargano, Mora, Schwenk

2. Nuclear structure (Alexandre Obertelli)

Bruce, Gargano, Dullman, Dombradi, Fornal, Forssen, Guttormsen Greenlees, Grevy, Jungclaus, Karpov, Kalantar, Leoni, Moro, Raabe, Rejmund, Obertelli, Pietralla, Riisager, Schwenk, Scheidenberger, Ur

3. Reaction Dynamics (Antonio Moro)

Karpov, Moro, Szilner, Ur

4. The Nuclear Equation of State (Giuseppe Verde)

Forssen, Guttormsen, Leoni, Kalantar, Schwenk, Ur, Verdi

5. Facilities and instrumentation (Stéphane Grevy)

Grevy, Kalandar, Leoni, Riisager, Scheidenberger, Szilner, Ur, Verde

N.B: i) some are members of several SB's

ii) SG1 is has a larger number of members