

GANIL NEWSLETTER

JULY 2026

Welcome to the July 2026 edition of the GANIL Newsletter.

This issue reflects the remarkable dynamism of our laboratory, showcasing recent scientific achievements, technological developments and major milestones for our facility. You will discover highlights from IPAC'26, where GANIL welcomed the international accelerator community, as well as the signature of the SAGA-FR2030 strategic partnership with CNES to expand our capabilities for space radiation testing. This edition also features advances in detector and data acquisition technologies, exciting new results in nuclear structure and superheavy element research, updates on the progress of our accelerator complex, and upcoming opportunities for the scientific community through our PAC call and Visiting Scientist Programme. I hope you enjoy reading this newsletter and thank all our staff, users and partners for their continued commitment to GANIL's success.

Hervé Savajols

HEADLINES

SAGA-FR2030: A strategic contract to modernize space radiation testing at GANIL

The GANIL and CNES officially signed the strategic SAGA-FR2030 contract on May 19th, 2026. This contract will help fund the SAGA project. GANIL will strengthen and expand its service offerings by optimizing its facilities through the modernization of existing infrastructure and the creation of new ones specifically tailored to the needs of the space community.



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Call for applications

Program Advisory Committee

The next meeting of the GANIL Program Advisory Committee (PAC) will take place from the 23rd to 24th of November 2026. It will be held in hybride mode. This call is open for experimental proposals to be performed at the GANIL cyclotrons experimental areas and the SPIRAL2/NFS facility. The deadline for submission of the proposals is October 2nd, 2026 (12:00 CET).

- [Read the article](#)

UPCOMING MEETINGS AND EVENTS

**August
24th-27th**
Teachers at
GANIL

**September
21st-25th**
Colloque
GANIL
(Bussang)

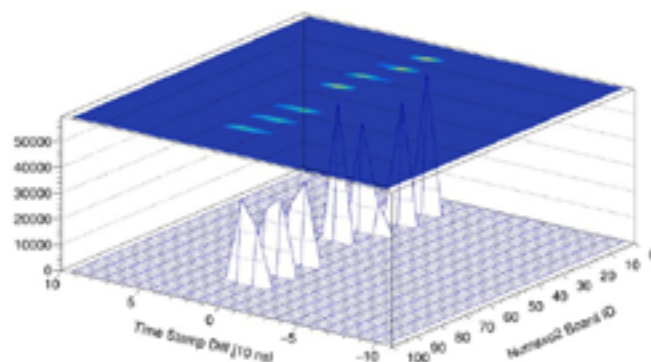
**November
23th-24th**
Program
Advisory
Committee

**November
25th**
Scientific
Council

**December
8th**
Inauguration
of the DESIR
building

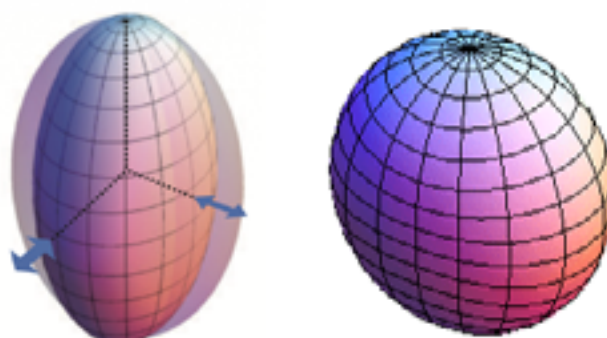
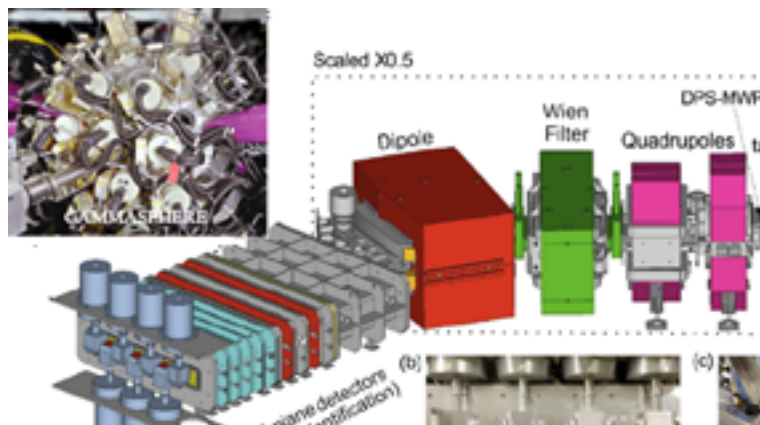
SMART aligns

The SMART project is a system developed by the Data Acquisition Group to modernise time-stamping synchronisation of data in nuclear physics. It replaces obsolete solutions such as CENTRUM and GTS with a more robust and flexible platform based on μ TCA and FPGAs, offering 100 MHz synchronisation with picosecond precision. The architecture is scalable and allows several hundred synchronisation/trigger links to be coupled. SMART is intended for GANIL but also for other collaborations (AGATA, GRIT, TAS). A complete chain has recently been validated in the laboratory with 9 NUMEXO2 cards, aligned to 10 ns.



Vibrations as a window into nuclear shapes and structure

Vibrations reveal the internal structure of systems from macroscopic matter and crystals to atomic nuclei, where nucleons can move collectively or individually. Observations of multi-phonon excitation is very challenging in odd-odd nuclei. Using state-of-the-art γ -ray spectroscopy, one- and two-phonon vibrations and evidence of coexisting nuclear shapes have been observed in ^{104}Nb , demonstrating that multi-phonon collective vibrational motion can persist even in complex odd-odd nuclei.



Experimental setups: VAMDS++ spectrometer and AGATA (Advanced GAMMA Tracking Array) gamma tracking array + EXOGAM (EXOTic GAMMA array) at GANIL and GAMMASPHERE at Lawrence Berkeley National Laboratory, USA.

- [Read the article](#)

Call for application 2027 Visiting scientist programm

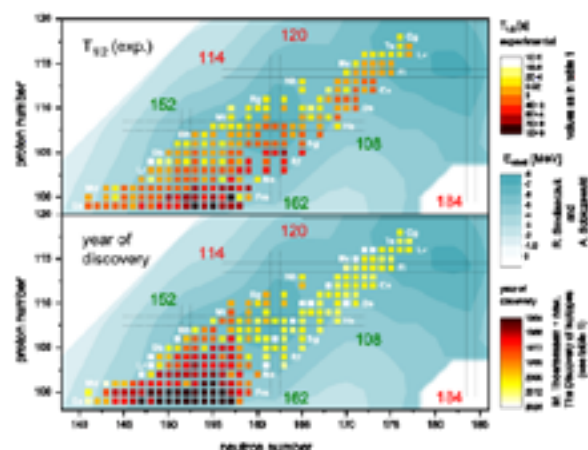
GANIL welcomes international scientists to apply to its visitor program. The objective of this visiting scientist program is to provide an international venue for research on nuclear physics, interdisciplinary research, accelerator and instrumentation developments. The call for applications 2027 Visiting Scientist at GANIL is open until September 30th 2026.

- [Read the article](#)

Decay spectroscopy of heavy and superheavy nuclei

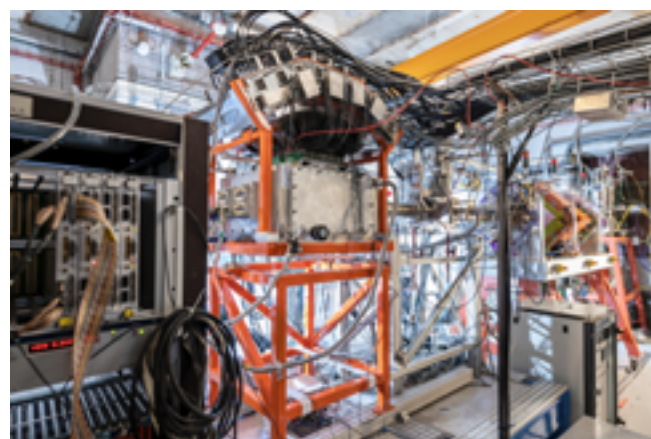
The search for next shell closures beyond ^{208}Pb , the location of the so-called "island of stability of superheavy nuclei" is still one of the most prominent challenges in nuclear physics. This paper summarizes the progress made for the heaviest nuclides from $Z = 99$ (einsteinium) to $Z = 118$ (oganeson), comprising a literature review as well as a comprehensive table listing the major properties for each known isotope and isomeric state. An installation with the potential to extend this research substantially is the Super Separator-Spectrometer S^3 .

- [Read the article](#)



The shell model's shell game

A ^{20}O beam from LISE was used in ACTAR TPC, filled with deuterium, to perform $(d, ^3\text{He})$ reaction. The measurement of energies and populations of different states in ^{19}N suggests that $Z = 6$ does not correspond to a true shell closure in neutron-rich oxygen isotopes. A theoretical model revealed that 95% of the gap narrowing arises from the tensor interaction, a component of the nucleon-nucleon interaction that depends on the relative orientation of their spins and positions.



GANIL hosted the global accelerator community of accelerator physicians

IPAC26 brought together over 1,500 participants for an exceptional week of scientific exchanges, collaboration, and innovation, featuring more than 2000 presentations and 120 companies gathered in an industrial showroom. By hosting IPAC, GANIL has strengthened its visibility in the field of accelerator technologies and its international collaborations, while showcasing its unique facilities to the scientific community.

- [Read the article](#)



ABOUT THE MACHINE

The dismantling of SPEG has begun

Work began at the rear with the exposure of the detection frame. All wiring was removed from the instrument. The detection frame is scheduled to be removed in autumn 2026. A company will disconnect the dipole heads with the aim of removing them before the end of the year.



CSS2: Successful restoration after an insulation fault

Late August 2025, an insulation fault in the upper coil of sector C of CSS2 led to the cyclotron's shutdown. Following an extensive campaign of diagnostics and interventions, nominal operation was successfully restored on February 5th with a current of 1850 A. Investigations confirmed the initial hypothesis: water had infiltrated the resin core, causing a short circuit. GANIL teams mobilized across multiple disciplines to perform vacuum tests, circulate hot air within the chamber, and flush hot water through the coil windings. Continuous monitoring under voltage during the re-pressurization of water to 15 bar validated the integrity and sound condition of the system.

Global Physics Photowalk 2025: Two GANIL photos awarded

GANIL has won the first and second public prizes in the Global Physics Photowalk 2025, an international competition that celebrates physics research through the lens of amateur and professional photographers. Both photos were taken by photographer Yannig Van Den Wouwer.

- [Read the article](#)



Second international public prize : Under Vacuum



First international public prize: The Tunnel

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