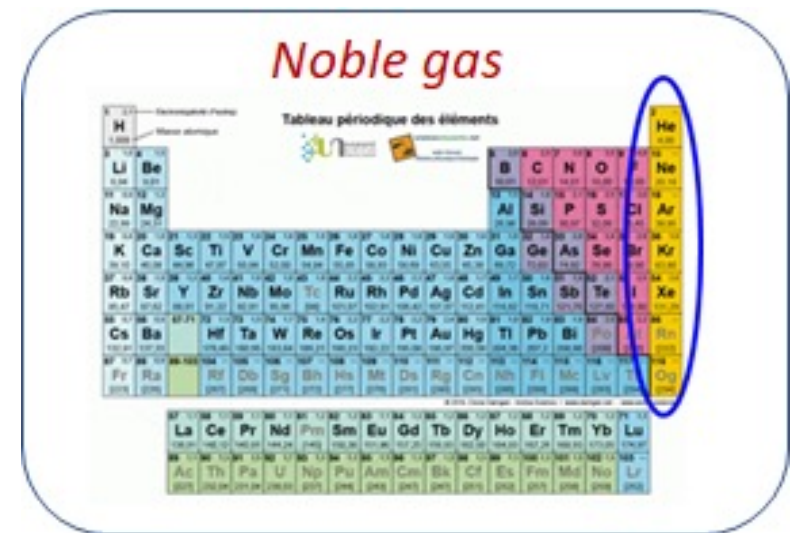
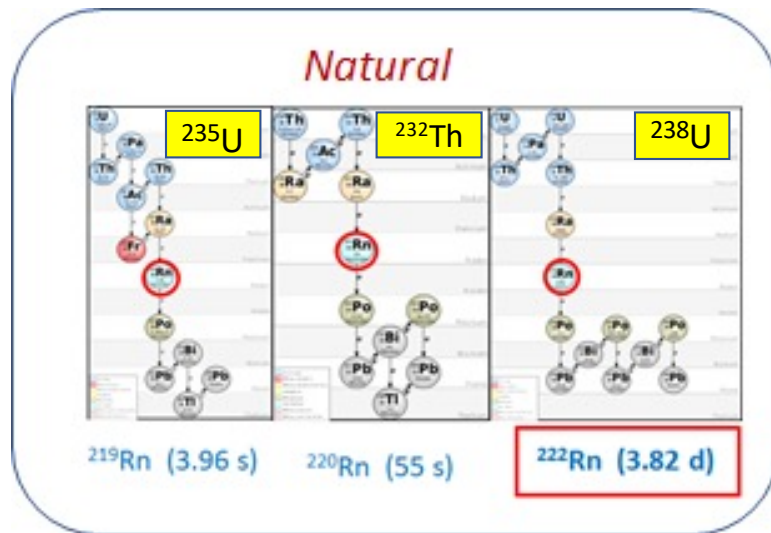


Summary of the conference
“Rencontre Scientifique Interdisciplinaire sur le Radon”
Marseille May 2025

José Busto (CPPM/Marseille)
Luca Terray (LPCA/Clermont)

GDR DUPhy 11th June 2025

*Natural, Radioactive, Noble gas
from the U and Th chains*



- Easy to transport, complicated to capture
- Short half-life, high intrinsic activity



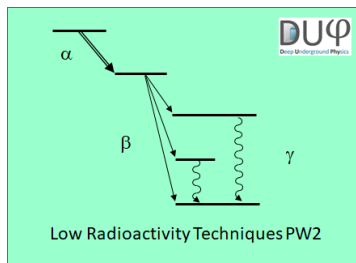
Public Health



Vector of Information
(Earth and Environmental Sciences)



Radioactive Background
(low energy, rarer events experiments)



Rencontre scientifique interdisciplinaire sur le Radon

Université d'Aix-Marseille

Campus de St Charles – Amphitheatre Massiani

14 au 16 Mai 2025

Motivated by DUPhy-WP2 the aim of the workshop was to bring together people (in France) interested in radon and motivated by the idea of reinforcing scientific links as a community.

70 participants from : Institutions -> CNRS, CEA, ASNR, BRGM, IPGP, Universités, etc.
: Companies -> Mirion, Bertin, DoseExpert, Radonova, HTDS

IN2P3 (~ 30 %) : CPPM (Marseille), LPCA (Clremont), LPSC (Grenoble), Lp2i (Bordeaux)

└─→ ~ 10 % fundamental physics

→ DAS Interdisciplinaire (J. Marteau)

The scientific program for the meeting covered the main scientific fields concerned with radon:

- **geosciences**, for which radon is a valuable tracer for studying the atmosphere, the hydrological cycle, karst, the ocean, volcanoes, soils, seismically and tectonically active areas and even the planets of the solar system;
- **fundamental physics**, where radon is a source of radioactive background in experiments searching for rare events (precision measurements in neutrino physics, dark matter research, neutrino-less double beta decay, etc.);
- **radiation protection**, where radon is a central concern for both workers and the general population, particularly in underground environments.

Mains talks in fundamental physics session

- ❑ General presentation of Radon problem in low energy rare event particle physics
Radon adsorption in porous materials – IRENE project -> J. Busto (CPPM)
- ❑ Radon studies on radon for particles physics experiments in CPPM radon platform -> H. Tedjditi (CPPM)
- ❑ Radon metrology, standards -> B. Sabot (CEA-LNHB)
- ❑ Strategies for Radon Mitigation in the JUNO Experiment -> F. Perrot (Lp2i) **Cancelled**
- ❑ Strategies for Radon Mitigation in SuperNEMO -> A. Lahaie (Lp2i)
- ❑ Radon daughter implantation on the surface of the component: modelling, measuring and surface cleaning
-> A. Dastgheibi Fard (LPSC-LSM)
- ❑ Surface contamination from plate-out and implantation of radon daughters -> S. Scorza (LPSC – LSM)
- ❑ Concentration of short-lived Rn daughters on negative ion generators → V. Breton (LPCA)

A few (personal) remarks concerning fundamental physics

❑ Relatively low presence of fundamental physics.

Not all of the experiments in which IN2P3 is involved and for which radon is potentially a problem were not there. Why?

- No time ?
- Too much interdisciplinary workshop ?
- The Rn problem is exported outside IN2P3 ?
- Rn it's not a sexy problem ! 😊



=> Real question for WP2, not only for radon.

❑ Links between geosciences and fundamental physics began to emerge. :

- Radon detection CPPM / University of Corsica
- Radon amplifier CEA Bruyères / LSM
- BiPo-like (coincidence) data analysis for hydrogeology
- Radon extraction from water
- etc.



❑ On the way to a Radon Master Project at IN2P3 including fundamental Physics & Geosciences

