Sujet : ***PUB***Christmas Newsletter Passez de bonnes fêtes de fin d'année !!
De : "Olivier BOURGEOIS" (via gdr-name Mailing List) <gdr-name@services.cnrs.fr>
Date : 22/12/2023, 12:35
Pour : GDR NAME <gdr-name@services.cnrs.fr>

GDR-NAME Christmas Newsletter

decembre, 2023

GDR Nanomaterials for Energy Applications

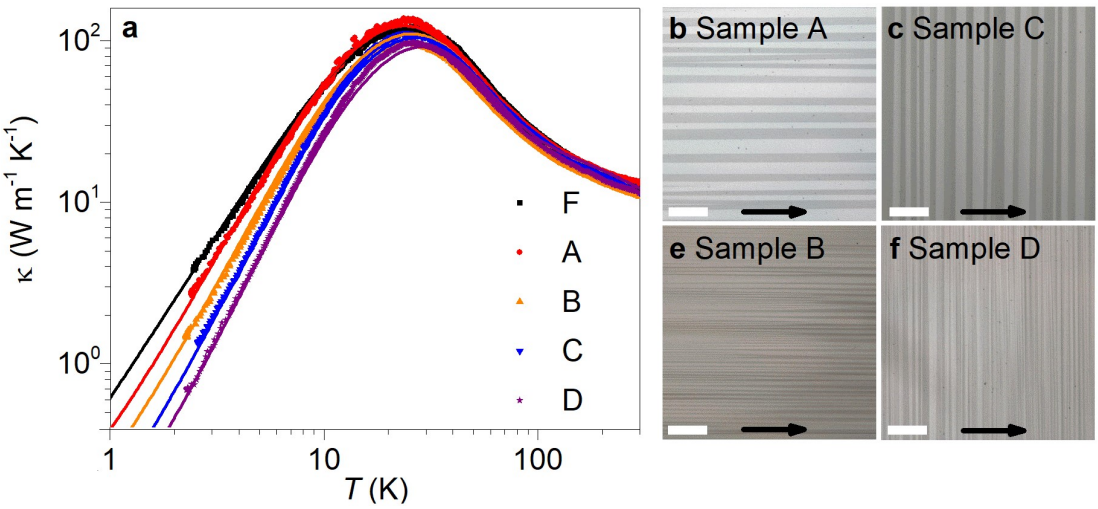
EDITO

Dear GDR members
Big events for 2023: the 4th year of GDR-NAME was rich with a thematic school on the development of nanomaterials for energy (EL-NANO), one thematic days on Interface, the plenary session in Rennes thanks to S. Cordier, and all the CNRS prospective committees for 2030. During 2024 and the 5th year we will have at least two thematic days, a thematic school on nanometrology, and the plenary in November. This 5th year will be the year of renewal of the GDR, and we need your enthusiasm and your scientific insight to take our group even further. We wish, for the new principal, each member to have an active role in the group, with suggestions for scientific highlights, conferences, workshops, seminars and webinars. We wish at a scientific level to orient our GDR towards sustainable

and toxic materials with abundant and green materials, and the suggestion of nanomaterials with tailor-made properties and functionalities.

LINK

IMAGE OF THE MONTH



Could ferroelastic domain walls be used for thermal conductivity switches?

Enabling on-demand control of heat flow is key for the development of next-generation electronic devices, solid-state heat pumps, and thermal logic. However, precise and agile tuning of the relevant microscopic material parameters for adjusting thermal conductivities remains elusive. Here, we study several single crystals of lanthanum aluminate (LaAlO3) with different domain structures and show that ferroelastic domain walls behave as boundaries that act like efficient controllers to govern thermal conductivity. At low temperature (3 K), we demonstrate a fivefold reduction in thermal conductivity induced by domain walls orthogonal to the heat flow and a twofold reduction when they are parallel to the heat flow. Atomistic calculations fully support this experimental observation. By breaking down phonon scattering mechanisms, we also analyze the temperature dependence of the thermal conductivity to derive a quantitative relation between thermal conductivity variations and domain wall organization and density.

See P. Limelette, M. El Kamily, H. Aramberri, F. Giovannelli, M. Royo, R. Rurali, I. Monot-Laffez, J. Íñiguez, and G. F. Nataf
Phys. Rev. B 108, 144104 – Published 13 October 2023

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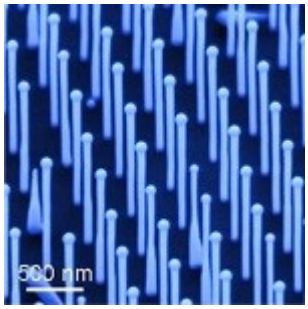
GDR-NAME NEWS

Breaking news of the GDR

GDR Renewal



2024 will be the last year of GDR NAME. It is a good occasion to thank the steering commitee for its action and all the members for their active participation to the White Book, organisation of events etc...
The renewal application is underway for 2025-2030, we wait for the CNRS decision !

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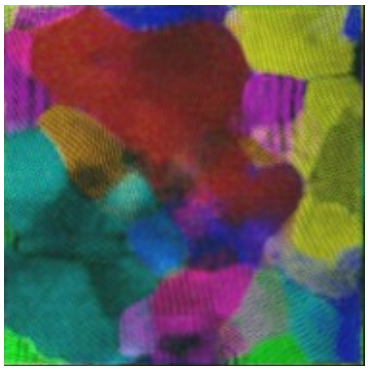
Thematic days of the GDR in 2024



Nanomatériaux et gestion de l'énergie THALES RT

THALES RT is initiating a meeting on Nanomaterials and energy management. These days will be held on THALES site in Saclay on the **19-20 March 2024**, so reserve the days, more info to come through the GDR website !!

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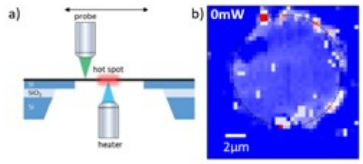

2D materials and thermal energetic physics save the date 6-7 May 2024

A meeting around 2D materials and thermal or energy management will be orgnaized in Lyon. For more details please check the GDR website.

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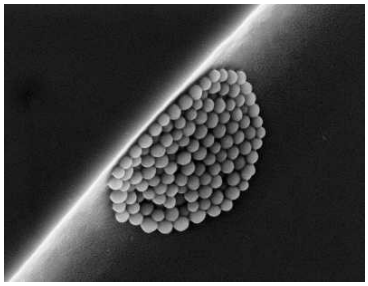
Thematic school of the GDR in 2024



ELENAM: Nanometrology school

ELENAM summer school: measurement at the nanometer scale,
The summer school will be dedicated to measurement at the nanometer scale. It is organized from **June 3 to 7, 2024** in Fréjus, villa Cynthia. It will cover all aspects of measurement at this scale and all physical or chemical quantities: dimensional, electrical, magnetic, thermal, mechanical, optical measurements, etc. The instrumentation will also be reviewed: near-field microscopies, optical spectroscopies, diffraction, etc. An opening to digital techniques linked to this type of measurement will be offered: calculation by molecular dynamics (MD), finite elements, use of neural networks,

etc.

LINK

GDR-NAME Events

GDR NAME Pleanary meeting in Lille (November 2024)

SAVE THE DATE !!! Next Plenary meeting GDR NAME November 6-8th 2024 at IEMN Lille

The plenary days of the GDR NAME will be organized in Lille, at IEMN, from the 6 to the 8th of Novembre 2024. Many thanks to Jean-François Robillard for having accepted to organize these GDR days.
More info to come https://gdr-name-2023.sciencesconf.org/.

LINK

ANNOUNCEMENTS

Events, schools, Conferences, workshop etc...!!!

Thematic school 2024

Thermics & Nanophotonics

The Houches Physics School, France, April 28 / May 03 - 2024

Controlling thermal emission, or the reciprocal phenomenon of absorption of electromagnetic radiation, is crucial in various applications including heat management, energy harvesting and conversion, sensing, imaging, or producing novel sources and detectors. The development of metamaterials and complex media has led to remarkable effects in heat-light conversion and transfer, due to light-matter interaction at the subwavelength scale.
The school will cover these topics both from the fundamental perspective and from the

applications point of view.

The scientific program committee
Nicolas BONOD (FRESNEL), Patrick BOUCHON (ONERA), Yannick De Wilde (ESPCI)
Natalia DEL FATTI (ILM), Riad HAIDAR (ONERA)

Submission campaign : until december 15, 2023 (Closed)
Answer to all candidates: December 19th 2023 at 7:25 p.m.

Registration campaign: from january 2th to February 06th 2024
Second submission campaign: until january 15, 2024

LINK

Nanoscale and Microscale Heat Transfer VIII conference

Conference Dates: June 3rd to June 7th, 2024, Girona, Spain

The Nanoscale and Microscale Heat Transfer VIII conference will take place in the beautiful city of Girona from the 3rd to the 7th of May. This conference promises to be an enriching experience for researchers in the field, offering a platform for knowledge exchange and collaboration.
Here are some key details about the conference:

You can submit your abstract by visiting the official conference website:
https://nmht2024.eu/
For further information about abstract submission and other conference details, please contact us through this email address (info@nmht2024.eu) or visit the website.

Feel free also to reach out to our local organizing committee members:
F. Xavier Alvarez (Chair)
A. Lopeandia (Co-Chair)
M. Sledzinska(Co-Chair)

LINK

Noel, une période parfois contrastée...

Un film : Un conte de Noel d'A. Desplechin

À l'occasion de Noël, une famille se réunit pour passer quelques jours dans la maison de Roubaix. Dans cette famille, il y a eu un fils aîné, Joseph, mort à sept ans, car aucun membre du clan n'avait une moelle osseuse compatible qui aurait permis une greffe

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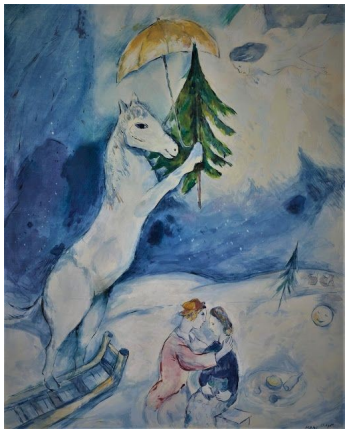

Une peinture: Marc Chagall "Christmas Fantasy" 1938

Une scène d'hiver, avec une sirène dans le ciel et une lune dans la neige. Le cheval-parapluie-sapin protège les amoureux.

Une recette : les petits gateaux secs de Maman

Attention les dents, mais très gournmands (pour les plus agés on peut les tremper dans le thé...). Voici la recette :500 gr de farine, 30 gr de farine d'amande, 250gr de miel, 125 gr de sucre, 130gr de beurre, pincée de sel, 5 goutte arôme de citron, 1 cuillère à café de cardamone et une de cannelle, 1 sachet de levure chimique. Faire fondre miel, sucre, beurre avec une C. à soupe de lait, le verser dans un saladierune fois fondu avec épices, farine (levure) amande, pétrir avec les mains, étaler sur une plaque de cuisson, 180°C pendant 15 min. Plus tendred dès que ca sort du four !
Joyeux Noel !!!

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Dr. Olivier Bourgeois (PhD)
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