



Projet FET Open ULTRAQCL

Ultrashort Pulse generation from
Quantum Cascade Lasers

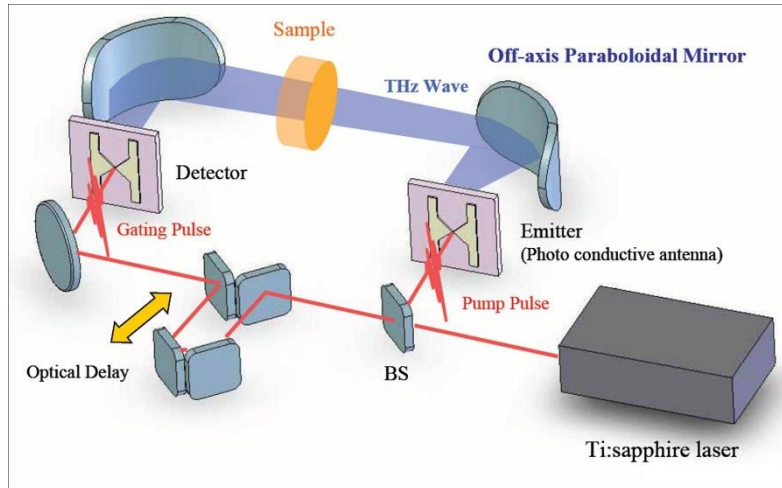
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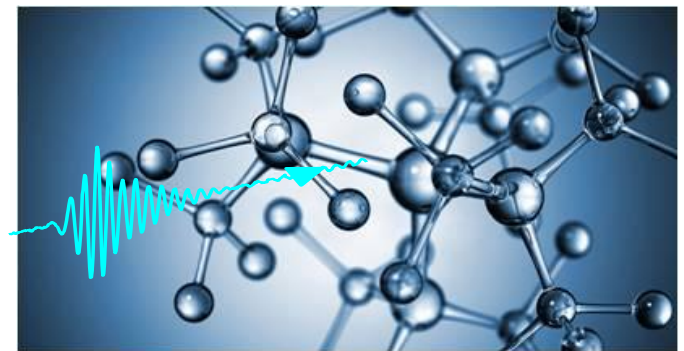


Ultrashort THz pulses



Applications of THz pulses:

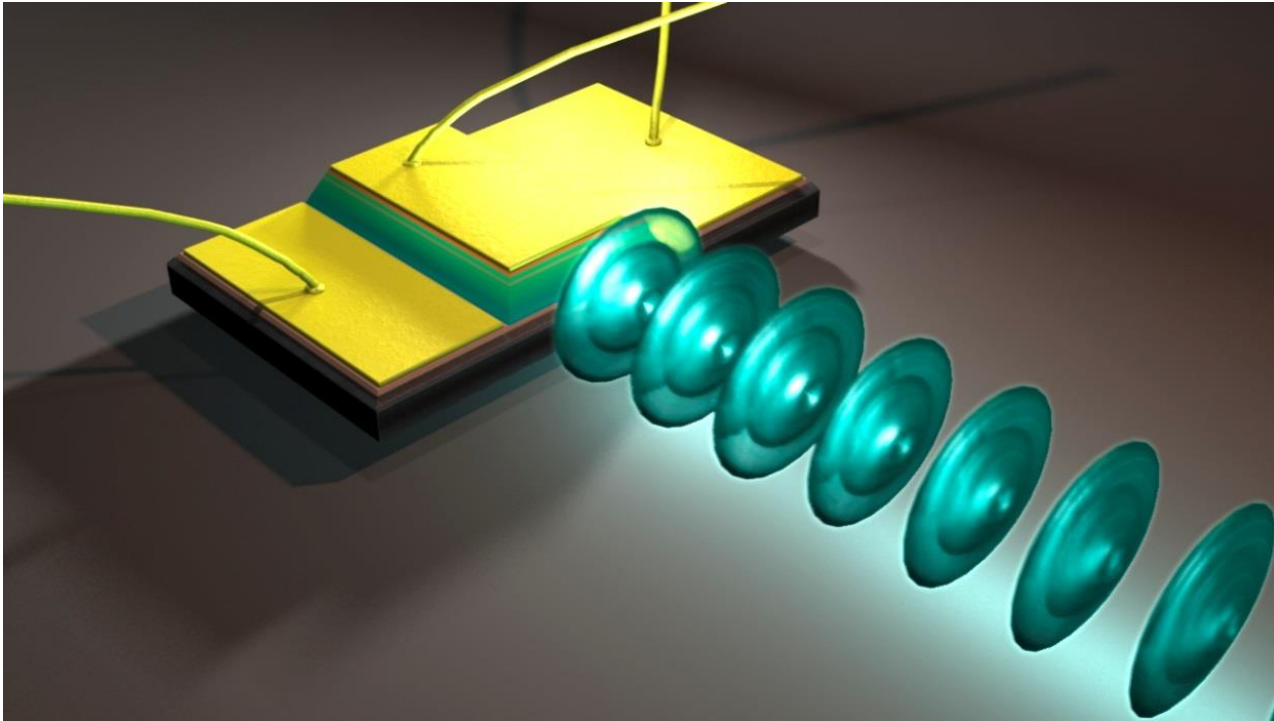
- Non-destructive imaging
- Molecular rotation/vibration investigation
- Biology and environments
- THz comb spectroscopy





Ultrashort THz pulses

Application of compact semiconductor devices



Research Area – Condensed matter, Photonics, Ultrafast

General Aims –

Performances better by an order of magnitude compared to state-of-the-art



Things to consider

FET - Technology that will become important

Importance/Impact/Novelty of subject in abstract and first few paragraphs

- Have a good (small) consortium
- Constructed consortium with previous collaborations and then looked for what was missing
 - Used collaboration network
- No Industrial partner here - but showed potential to have contact
 - **Painful experience in writing project – coordinator does the work!**
 - Try to get main idea of subject down few months before
 - Do not stay isolated ! Get someone to analyse the project



Things to consider

Very short (16 pages) - minimise no. of workpackages and avoid 'details'
Plan the writing – decide how much space should be dedicated to each section

**Do not forget the IMPACT and IMPLEMENTATION parts
= can make the difference.**

CNRS can help (engineer to help set-up project if asked in advance)
Do not forget to take into account Management

Equipment – careful ! For CNRS, depreciation over 5 years but project for
3 years

Equipment – all material > 800 euros



Impact

Impact – Give real examples!
Webpages/Blogs/Open days/Demonstrations

How Industry will be engaged ?
Industrial workshops. Give existing examples

In ULTRAQCL project – Proposition of Technology day towards end of project
Invite leading companies to see new technology

External Advisors – proposed to set-up committee with industrial actors

Try to have something unique if no industrial partner

**Give numbers - Market Values, growth projections of potential
technology/research area**

Dedicated team for Knowledge transfer, advisory board, market studies



Referee Report

What they liked :

Really new stuff but need something that will work as quite applied

Combine with what is feasible in time frame and what is quite risky

Referees will use guidelines and your text

“This credible and solid proposal has a well-defined and unambiguous objective, namely "pulse generation enabling ultrafast QCLs to become a ubiquitous technology for the THz range.” ”

“In addition to these somewhat standard measures, the organization of a Technology Showcase adds value to the proposal.”

“The inclusion of high-risk SMEs to help exploiting the devices would have been desirable. Anyhow, UNIVLEEDS has a well-resourced commercialization team which would help interacting with the industry and licensing their research”



Experience after 2 years

A fair bit of paperwork – need to keep up with deliverables, milestones, website, publicity, meetings, contact with project officer etc.

Project followed very seriously – very time consuming (time > 50%)

Equipment – Needs to justify that it has been used solely for the project ...

Industrial contact – set-up external committee with industrials to monitor progress.

Also did some research!

Very good collaborations and networking. Advances towards goals

Difficulties - Some deliverables/tasks not realisable
Modified grant agreement to take this into account

Opened new collaborations on European scale
Opened up new European projects (FET-OPEN MIRBOSE)



Summary

- Brain storm with european colleagues.
- Target an ambitious « Technology »
- New work (but feasible...)
- Have new partners/tasks/competences not previously attempted
- Why is it good to try this now ?
- Have some sort of « industrial input »
- Construct budget carefully