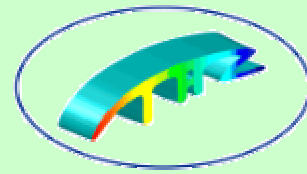




Survey on the use of THz radiation



There is an increased interest in the use of THz radiation in a variety of applications, from biomedical imaging to material science and security. As part of the European Coordination Action EMF-NET funded in the 6th Framework Programme of the EU, a working group is monitoring the potential effects of this type of radiation with biological systems and is compiling information with respect to the characteristics and the use of currently available THz radiation sources.

We are interested in wavelengths from 3 mm (400 μ eV, 100 GHz) to 30 μ m (40 meV, 10 THz). Would you be prepared to answer a few questions about the THz radiation you employ?

Preliminary data collected within the European project THz-BRIDGE are available on the web-site www.frascati.enea.it/THz-BRIDGE/

Information about the EMF-NET consortium can be found on the web-site:

www.jrc.cec.eu.int/emf-net

Thank you for your time.

1) The THz radiation we use is generated from (*please tick all that are applicable*)

- | | |
|--|--|
| <input type="checkbox"/> a Solid state laser driven source | <input type="checkbox"/> a Gas laser |
| <input type="checkbox"/> an oscillator (GUNN, IMPATT, etc.) | <input type="checkbox"/> a Quantum Cascade Laser |
| <input type="checkbox"/> a Free Electron Source (FEL, BWO, Gyrotron) | <input type="checkbox"/> an OPA system |
| <input type="checkbox"/> a Synchrotron Radiation Source | <input type="checkbox"/> other: |

2) The main characteristics of our source are (*please complete this section for each source in your laboratory, thank-you*)

	Source 1	Source 2	Source 3	Source 4
Central wavelength				
Bandwidth				
Tuning range				
Average power				
<i>for pulsed systems:</i>				
Peak power				
Pulse duration				
Repetition rate				

Is your laser amplitude modulated?

Yes

No, please go to question 3

If, yes, please specify, frequency and other details, (*for example the macropulse structure and any low-frequency modulations*)

3) We comply with the following regulations for the use of lasers and microwave sources.

EN 60825-1 (Europe)
"Safety of laser products"

ANSI Z-136.1(2000) (America)
"American national standard for the safe use of lasers"

ENV 50166-2
*"Human exposure to electromagnetic fields:
High Frequency. (10 kHz to 300 GHz)"*

other (*please specify*)

If, you have completed maximum permissive exposure (MPE) calculations, please state the MPE for each of your sources;

Source	MPE

4) We also take the following shielding precautions on the THz beam-line (*max. 250 words*).

Do you have concerns over the potential biological effects of THz radiation.

Yes

No (please go to question 5)

If yes in which areas

Direct acute effects on cells

Direct chronic effects on cells

Indirect effects via interaction with endogenous chemicals

Indirect effects via interaction with exogenous chemicals
(*e.g. topically applied chemicals or systemically taken drugs*)

5) Are your occupational workers exposed to THz radiation?

Yes

No, please go to question 6

Number of personnel subject to exposure to THz radiation

between 1 and 3

between 3 and 7

greater than 7

please state.....

Please estimate the typical duration and frequency of exposure for personnel

Duration

less than 6 minutes

between 6 and 20 minutes

greater than 20 minutes

Frequency

once a month

once a week

once a day

several times a day

Please estimate the maximum peak and average power of exposure on your occupational worker/s to THz radiation.

The estimated peak power is

W/cm²

The estimated average power is

W/cm²

Do you have any concerns regarding exposure of occupational workers to THz radiation?

Yes

No, please go to question 6

If, yes, please state.

6) We employ the source(s) in the following applications: *(tick all that are applicable)*

source development

spectroscopy

biology

material science

biomedical studies

imaging

security

other (please specify)

.....

Name:

Position:

Institution: University/Company

Department

Address line 1

Address line 2

Town

Zip or post code

PRIVACY STATEMENT

By signing this form you agree that the data collected from this survey can be stored on a database held by the EMF-NET consortium. The data collected will be analysed and aggregated eliminating any personally identifiable information in the process. The aggregate information will be disseminated to the scientific community by EMF-NET and will not be used for any commercial purpose. No personally identifiable information will be shared with any third party.

Signed.....

Date.....

I would like a copy of the final report on this survey.

You may NOT contact me for additional information

Please return this form to:

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We thank you for your contribution!