Annual report on optical radiation activities: France – 2019

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Research activities in France

UV: Ultraviolet radiation

Anses call for research projects on ultraviolet radiation

In its 2017 call for research projects, Anses raised questions regarding health impacts from UV radiation especially for workers.

Project funded by Anses

The projects funded in 2016, resulting of the 2015 call for projects, is the following:

- SKIN-RF (M.György Thuroczy): study to determine whether exposure to RF alone or in combination with other environmental factors such as solar ultraviolet (UV) radiation may affect the integrity and cellular damage of the skin.

LED: Light emitting diodes

Project funded by Anses

The projects funded in 2017, resulting of the 2016 call for projects, is the following:

- TOXI-LED (Alicia Torriglia): retinal impact of toxic interactions between pollutants in public and professional environments and the blue light emitted by LED lighting. Feasibility study

The following project has been funded in 2014: UV-LED (Alicia Torriglia): visual risks from new LEDs.

Project funded by International Energy Agency (IEA) 4E implementing agreement SSL Annex :

- Visual Perception under Energy-Efficient Light Sources - Detection of the Stroboscopic Effect Under Low Levels of SVM. Laboratories involved: Centre Scientifique et Technique du Bâtiment (CSTB, Christophe Martinsons), Canada National Research Council (NRC-Construction, Jennifer Veitch)

Risk assessment activities

LED: Light emitting diodes

Following its opinion on health effects of lighting systems using LEDs published in 2010, Anses started a risk assessment review of knowledge on health effects related to the use of LED lighting devices and other devices (screens, toys, etc.) using LEDs. It will be released in May 2019.
This work has investigated either phototoxicity of LEDs used for lighting (general lighting, automotive lighting, hand-held lighting, head lamps) and other light emitting devices (screens, etc.), and circadian disruption with possible impacts on sleep disorders. Impacts on environment (artificial light at night) has also been studied. The report also identified several adverse effects linked to the temporal light modulation of LED lamps and luminaires. Visual effects include flicker, stroboscopic effect, phantom-array effect. Non-visual effects include the perturbation of ocular motions during visual tasks, associated with a decrease of visual performances. Health effects include headaches, migraines, visual fatigue, etc.

New policies and legislations

UV:
Publication of two orders under the decree on artificial ultraviolet radiation published in December 27th 2013[1]:

[1] http://www.legifrance.gouv.fr/affichTexte.do?dateTexte&categorieLien=id&cidTexte=JORFTEXT000028398316

- One order specifies information and warnings to operators and users of tanning devices:

This order is intended to define the mandatory warning messages to alert users of tanning devices on the health risks associated with exposure to artificial ultraviolet. It sets especially the content and presentation of the warning on the health hazards that must appear on all advertising of tanning equipment, during the sale of such equipment or for the provision of services including the use of a tanning apparatus.

- The second order concerns the traceability of tanning devices.

It fixes the rules for inspecting them and conditions of accreditation of control bodies. This order is intended to enhance the security of using tanning equipment. It sets the initial and periodic inspections of tanning devices and institutions making these devices available to the public. Accredited inspection institutions carry out the controls. This order defines also the content and presentation of mandatory tanning devices statements.

LED:
ICNIRP (International Commission on Non-Ionizing Radiation Protection) has revised its limit values for the photobiological effect of blue light in 2013, French standards are directly aligned with these recommendations.

New French regulation on artificial light at night (with the technical support of CSTB): the Decree of 27 December 2018 on the prevention, reduction and limitation of light pollution. The Decree supersedes and repeals the existing national law in France. It sets strict requirements for outdoor lighting installations intended to promote the safety of travel in public and private spaces, heritage illumination lighting as well as parks and gardens, outdoor sports equipment for non-residential buildings, parking lots, event lighting, exterior construction site lighting on:

- Outdoor lighting curfews
- Limits on the allowed emission of light directly into the night sky
- Reduced influence of glare
- Restrictions on the emission of blue light
- Allowable illumination levels

French regulations concerning glare produced by signs and billboards are currently under revision (Article R581-34 et Article R581-59 du Code de l'Environnement) with the technical support of CSTB.

The regulation currently being adopted concerning the ecodesign requirements for light sources and separate control gear was voted on December 17 in the "Regulatory Committee". It is not yet adopted by the European Commission. This should happen in the summer. It will repeal the regulations 244/2009, 245/2009 and 1194/2012, as well as the labelling regulation 874/2012. In this regulation some requirements have been settled on the "stroboscopic visibility measure", SVM at 0.4.

Optical radiation in the workplaces
Publication in March 2016 of two ministerial orders under the decree on artificial ultraviolet radiation published in July 2010. One order specifies methods to carry out risk assessments in the workplaces (use of readily accessible information, calculations or measurements) and the second order concerns the conditions of measurements and fixes conditions of accreditation for the bodies who carry out these measurements.

New public information activities

Optical radiation in the workplaces (except laser):
In order to help employers to assess risks and measure the level of optical radiation to which workers are exposed, Inrs published in 2016 the methodological guide "NS 347".

Laser:
In 2018, Inrs updated its publication "ED 6071" about laser radiation.

Statements from NGOs, institutions, etc. (not exhaustive).

Not available.