PEMF Prime Academy

Certified PEMF Expert

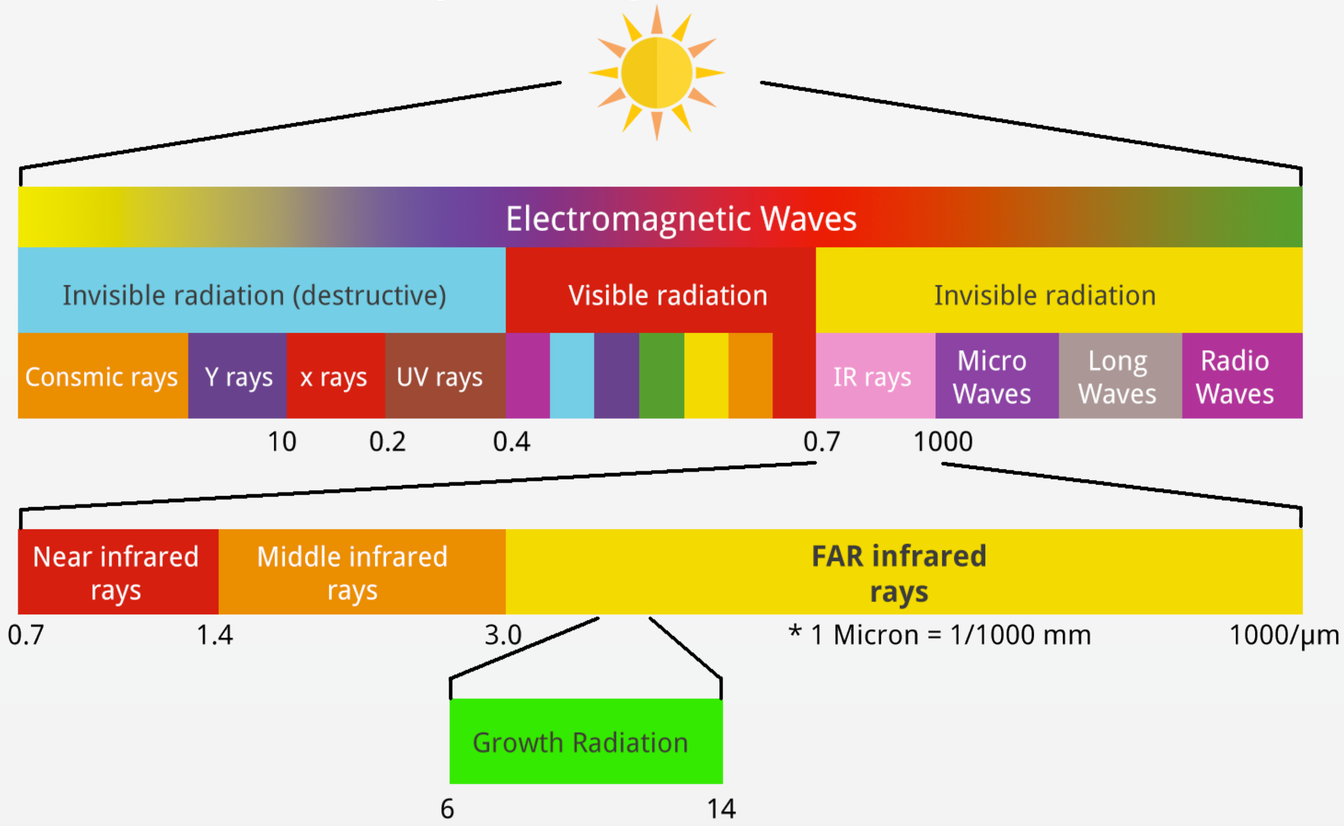
Module 6

Far-Infrared (FIR) - Basics, Benefits and Parameters

PEMF Prime Academy

What is Infrared (IR)?

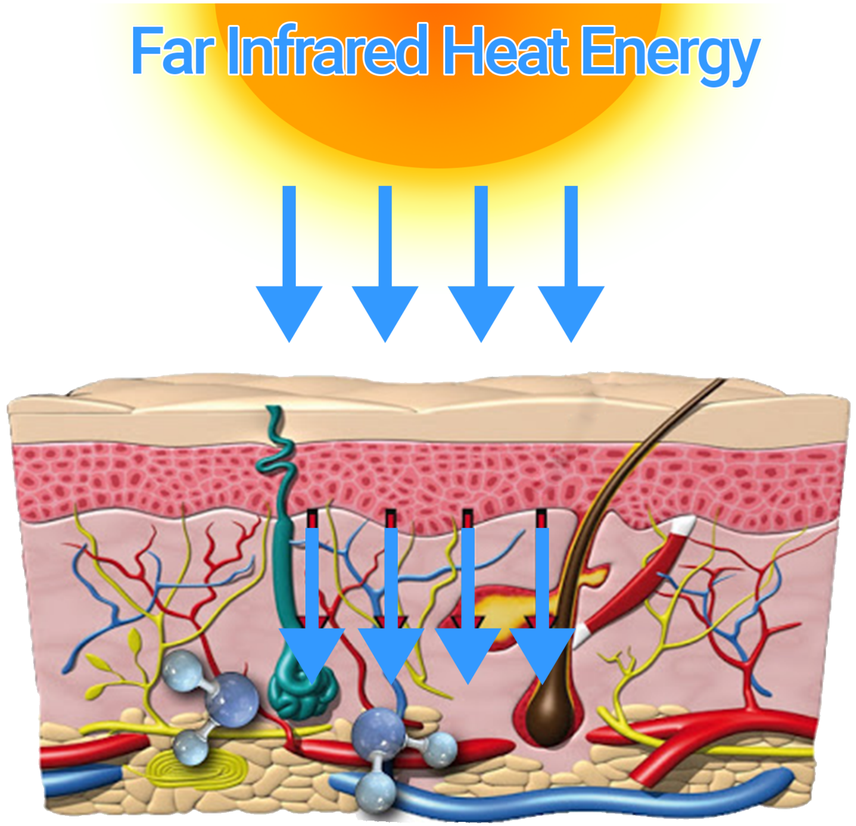
- Infrared radiation (IR), also called infrared light, is electromagnetic radiation (EMR) with wavelengths longer than those of visible light. It is therefore generally invisible to the human eye, although IR at wavelengths up to 1.05 micrometers (μm) or microns from specially pulsed lasers can be seen by humans under certain conditions. IR wavelengths extend from the nominal red edge of the visible spectrum at 0.7 micrometers or microns (frequency 430 THz), to 1 millimeter (300 GHz). Most of the thermal radiation emitted by objects near room temperature is infrared. As with all electromagnetic radiation, IR carries radiant energy and behaves both like a wave and like its quantum particle, the photon.



6 - 14 Micron bandwidth essential to grow of living things

What is Far Infrared (FIR)?

- Far infrared (FIR) radiation is a IR subdivision of the electromagnetic spectrum and has been clinically investigated for biological effects, mostly within the sub-range of roughly 3-12µm (biological window)
- It is considered a promising application modality for certain health conditions
- Engineering advances over the last years have provided new techniques and fabrics for delivering FIR to the human body, completely eliminating the near and mid infrared bands and even narrowing down the FIR range
- Within the entire IR radiation spectrum, only FIR transfers energy purely in the form of heat which can be perceived by thermoreceptors in the human skin as radiant heat. Not only is FIR absorbed by the human body but it is also emitted by the body in the form of so-called black body radiation (3–50 µm with an output peak at 9.4 µm)



What is Far Infrared (FIR)?

The classification of the International Commission on Illumination (CIE) has three sub-divisions for the IR radiation:

Near Infrared/IR-A
0.7– 1.4 µm

Mid Infrared/IR-B
1.4– 3.0 µm

Far Infrared/IR-C
3.0– 1000 µm

Caution:

There is a lot of confusing and seriously wrong information on the internet about Infrared and Far Infrared! All provided info is based on a study reference, published in the National Library of Medicine in 2012:
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3699878/

See also details next slide!

Far Infrared Radiation (FIR):

Its biological effects and medical applications

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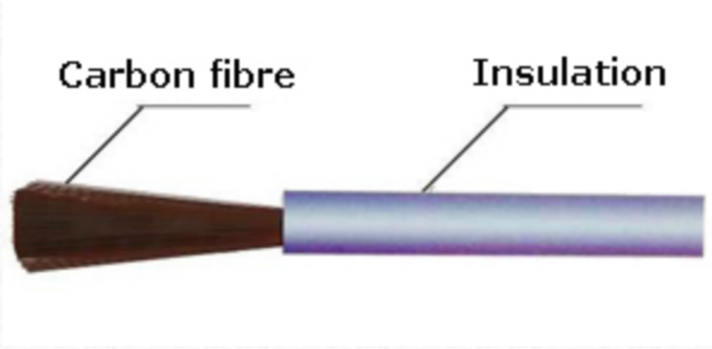
Purpose: “In this paper we explore the use of FIR as a promising treatment modality for certain medical conditions. We cover both traditional applications and novel applications, and survey the latest technological advancements and most recent scientific studies in the field.”

What is Far Infrared (FIR)?

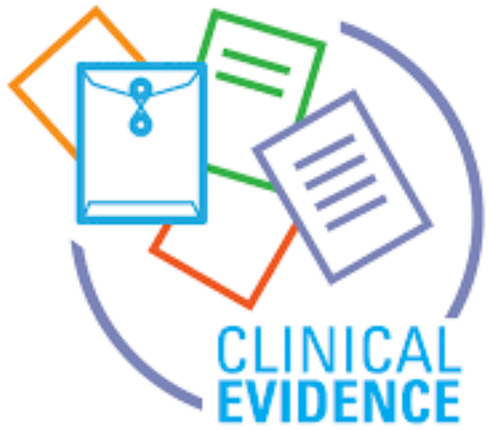
- State of the art technology today is based on Carbon Fibre flat applicators, either cast in panels (FIR Saunas) or mesh wire constructions (whole body applicators), emitting a range of approx. 3-15µm with an absorption resonance depth of 2-3 inches (50-75mm)
- FIR creates a holistic effect from inside-out (similar to PEMF) = thermal AND a-thermal radiation will be absorbed and enhanced through vibrational and rotational effects on a multi-molecular level
- Exagon FIR Whole Body Mat consists of an additional layer of carbon fibre mesh wire surface, emitting a perfect and evenly distributed wavelength spectrum to create **Resonance Absorption**
- iMRS prime with Hybrid whole body mat provides a simultaneous application of PEMF and FIR exponentiating the health-promoting effects of electromagnetic vibrations within the biological window



Benefits of FIR

A body of clinical evidence supports Far Infrared as a non-invasive health-promoting application:

- Chronic pain, arthritis, joint stiffness, inflammation, and insomnia
- Enhances blood circulation, improves blood flow in organs, supports cardiovascular health
- Correlates with an overall improvement in health
- Stimulates micro-circulation by dilating blood vessels and capillaries
- Enhances the delivery of oxygen and nutrients to speed cellular repair
- Balances digestive problems
- Reliefs stress
- Speeds up regeneration
- Benefits of sunshine without the risks
- Penetrates quicker and provides a faster response in the body, and its warming benefits continue after use due to **Resonance Absorption**



Properties of FIR

- Conventional heating pads work from the outside in (thermal energy) and once removed, the therapeutic value quickly goes away. In contrast, Far Infrared penetrates through the skin and insulating layer of fat, producing warming effects from the inside out!
- A FIR application feels extremely pleasant, soothing and relaxing
- Resonance Absorption rate with Exagon FIR is very efficient due to the small distance between the user and the emission surface and its even distribution
- Simultaneous application of PEMF and FIR does not create negative interactions among each other
- FIR applications are very safe and free of noticeable risks
- iMRS prime hybrid together with Exagon Sense and Exagon Brain is the world's first and only multidimensional and fully synchronized Wellness-System for home use, combining **PEMF**, **FIR**, **SOUND**, **LIGHT**, **COLOR** and **BIOFEEDBACK** in one application!