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Electronically controllable laser and point location system for body worn laser therapeutic systems

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BRIEF DESCRIPTION

Photonic physiological and neurological stimulation is the application of therapeutic lasers to classical acupuncture points on the body for therapeutic purposes. The therapy is typically delivered with a manually held and adjusted laser, which can be inexact and unsteady. Working together, inventors at UCI and Samueli Institute have developed a computer-controlled photonic stimulation system that is capable of using complex therapy protocols to provide more effective treatment using multiple laser sources.

FULL DESCRIPTION

Classical acupuncture involves inserting fine gauge needles into the body at selected sites. The stimulation of specific acupuncture points has indirect effects in other areas of the body that can be used as treatment for pain, nausea, and stress. However, classical acupuncture is inaccessible to many who dislike needles, including children. There are also inherent drawbacks such as soreness, bleeding, and infection that can result from the invasive nature of the needles.

Lasers have been shown to produce physiological and neurological affects similar to classical needle acupuncture. The lasers are typically range from ultraviolet (~390nm) to near-infrared (~900nm) in wavelength. Other parameters, such as penetration angle and power density are adjusted to achieve the correct skin penetration depth. The laser sources currently require manual positioning and manipulation, which can be unsteady and reduce effectiveness. Therapists are also limited to only a single laser source at a time, making it impossible to stimulate multiple acupuncture sites concurrently.

The inventors have developed a method and apparatus for simultaneous control of multiple light sources for laser stimulation therapy. The apparatus includes laser mounting and positional elements that can control and direct multiple laser sources. A software interface allows for pre-programmed treatment protocols that can be more complex than those performed manually by a specialist. Treatment programs that can employ multiple electronically controlled lasers simultaneously can be more precise and effective than those performed manually by a specialist.

ADVANTAGES

§ Control system can operate multiple lasers simultaneously and independently

§ Allows for complex protocols without a specialist

§ Non-invasive nature prevents soreness, bleeding, and infection

STATE OF DEVELOPMENT

A design has been created

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OTHER INFORMATION

CATEGORIZED AS

- » **Medical**
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