TWO-POINT AND MULTIPLE-POINT SPOT HEATING AND COOLING

Tech ID: 25979 / UC Case 2016-201-0

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	11,730,624	08/22/2023	2016-201

BRIEF DESCRIPTION

This invention relates to apparatus and methods for producing thermal comfort using two-point or multipoint heating or cooling applied to specific portions of a human body. The system induces a warm or cool sensation over a larger area than where the heating or cooling is directly applied by adjusting the body's neutral temperature setpoints. Increased warming perception from two-point, multipoint, and switching point stimulation causes downward adaptation in the neutral skin temperature of the user. Spot heating and cooling sources operate at higher temperature differences from the skin than area sources, creating a stronger perceived thermal sensation for the same power consumption. This approach can result in power savings and cost savings while improving occupant comfort.

SUGGESTED USES

- Personal Thermal Comfort: Devices for individual use to enhance comfort in various environments, such as homes, offices, or vehicles.
- Wearable Technology: Integration into clothing or accessories for personalized heating or cooling.
- Medical Applications: Therapeutic devices for managing conditions that benefit from localized heating or cooling.
- Sports and Fitness: Equipment to aid in muscle recovery or temperature regulation during physical activities.
- Workplace Efficiency: Enhancing comfort in workspaces to improve productivity and reduce energy consumption.

ADVANTAGES

- Energy Efficiency: Spot heating and cooling require less power than whole area heating, leading to significant energy savings.
- Cost Savings: Reduced power consumption translates to lower operational costs.
- Enhanced Comfort: Targeted thermal stimulation provides a stronger perceived sensation, improving overall comfort.
- Adaptability: The system can be tailored to various applications, from personal devices to larger-scale implementations.
- Sustainability: Lower energy usage contributes to a more sustainable approach to thermal management.

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OTHER INFORMATION

CATEGORIZED AS

» **Environment**

» Other

» **Medical**

» Other

RELATED CASES

2016-201-0

RELATED MATERIALS

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