

Artificial Sleep Inducer Using Geo-Magnetic Field

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ABSTRACT

The magnetic field which originates naturally in the earth is called Geo magnetic field. It is also called earth's magnetic field. It is developed within earth which extends into space and interacts with solar wind charged particles from the sun. It generated by electric current in the conductive material of its core. People usually feel that they sleep well in the natural contiguous like tent or hut. This is because of our ability to perceive natural earth's magnetic field without our knowledge. At times people with sleep sickness mess a lot during night times. The amount of sleep a person requires depends on many factors, mainly for elder's 8-10 hrs of sleep. Geomagnetic field varies with place and also intensity. There is no proper method to find its level. Hence this paper presents a sleep inducer for insomniac and depressed people to create this type of magnetic field artificially. It is difficult to generate radiation with electrical circuits and it is unsafe as well. Out design will reason currents to ring at specific frequency. A glorified coil of wire and pair of separated metal plate called LC circuit can produce oscillating currents. Hence, it creates electromagnetic field through a radiator coil. This will help people those who are powerless to sleep and pretentious by insomnia, depressions. Even for twitchy kids this sleep inducer helps at times. This set up should be placed under a pillow of the subject. This will induce soporific sleep.

Keywords: Geomagnetic Fields, Depression, Sleep Inducer, LC Circuit, Insomniac, Radiator Coil

I. INTRODUCTION

Our body needs sleep to rest and recover energy. If the sleep is inadequate, then the performance of brain and body goes down. One becomes irritable and cannot concentrate on their work. After several days of inadequate sleep, one may start hallucinating. Usually people use sleeping pills or other drugs for restful sleep. But these drugs may cause some side effects and health issues. Hence in order to induce deep, restful, prolonged sleep without drugs magnetic field is generated which imitates geomagnetic field. This magnetic field produces sleep patterns similar to waves produced during deep sleep.

Sleep is natural and periodic state of rest during which consciousness of world is suspended. Human being spends 36% of their life in sleeping. Sleep is actually an active period during which lot of processing, restoration and strengthening occurs.

Table 1. Sleep time requirement at various age.

People classified according to age	Sleep requirement (hours/day)
Infants	12-15
Toddlers	11-14
Pre-school children	10-13
School-age children	9-11
Teenagers	8-10
Adults	7-9

Sleep is a restoration stage at which the brain accumulates metabolic wastes. Sleep plays an important role in cleaning out brain each night and these toxins can be flashed out during waking hours. Sleep helps us to solidify and consolidate memories. Each and every day our brain collects lot of information in short term memory. This information are processed during sleep and transferred to long term memory. Sleep having superior power and influence metabolic health.

SLEEP DISORDERS

Sleep disorders is also called as somniphathy. It is a disorder that causes changes in sleep patterns in brain. This leads to diverse effects like day time drowsiness, irritability, lack of concentration and other physical disorders.

Types Of Sleep Disorders

- ✓ Snoring
- ✓ Sleep apnea
- ✓ Insomnia
- ✓ Sleep deprivation
- ✓ Restless leg syndrome

II. METHODOLOGY

EFFECT OF MAGNETIC FIELD ON SLEEP

By accelerated theory of transition, deep sound sleep can be induced by using low strength magnetic field. This magnetic field induces prolonged and sound sleep without drugs. The main advantage of this effect is not harmful for users. It will create a moment to sleep deeply without any commotion.

MAGNETIC EFFECT OF EARTH AND SLEEPING POSITION

Our earth has magnetic dipole which is stretched from north to south positive pole is at north and negative pole is at south. This north-south direction retards the blood flow through brain capillaries and affects the brain cell function. When a person sleeps by facing towards north, it causes disturbed blood flow, restlessness and disturbed sleep. Because the magnetic field of earth and body is not oriented.

When a person sleeps by facing towards south, there is mutual attraction exists between body and earth's magnetic field. This effect of magnetic field helps in sleeping and wake up fit and fresh. Similarly when we sleep facing our head towards eastwards, the magnetic lines of force enters through head and exits through feet which cools up the head and induces sleepiness. So, it is better to sleep by facing our head towards eastwards or southwards. Like this, sleeping position also helps us in sleeping.

III. BLOCK DIAGRAM

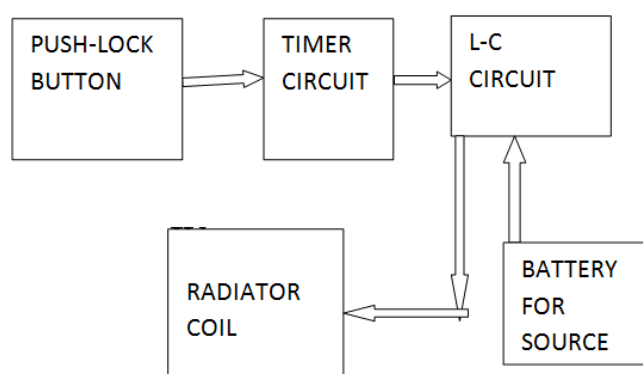


Figure 1. Block diagram to generate geomagnetic field.

TIMER CIRCUIT

This device consists of one timing circuit which is used to preset the period of time the electromagnetic field should be produced. There are two modes of operation 'stop' and 'alternate' modes which are regulated using switch. When the switch is opened then it operates at 'alternate' mode and starts producing electromagnetic field until the preset time and switch gets closed. When the switch is closed it operated at 'stop' mode and electromagnetic field production gets stopped.

LC TANK CIRCUIT

LC circuit is used for producing oscillating current which creates electromagnetic field through radiator coil. LC circuit is oscillating at its natural frequency, so it can able to create electrical energy. LC oscillator comprises of an inductor L and a capacitor C. If the

inductor and capacitor are connected in series, it provides voltage magnification. But in our project we need to magnify current hence the inductor and capacitor pair is connected in parallel which forms a tank circuit. In current amplification, capacitor and inductor are connected in parallel along with switch and voltage source.

IV. WORKING

This device is based on Faraday's law of electromagnetic induction .

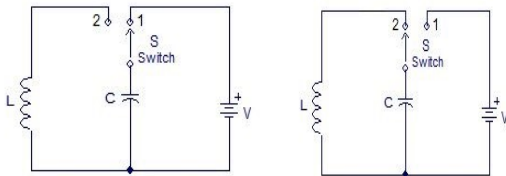


Figure 2. Two different Tank circuits

In first case, the switch is connected across the capacitor and voltage source whenever the switch gets closed the capacitor starts charging. In second case, the switch is connected in between capacitor and inductor whenever this switch gets closed the capacitor starts discharging through the inductor. Due to discharging, the voltage across capacitor starts decreasing consequently current across inductor increases. This current is used to create electromagnetic field by using radiator coil.

Timing option is selected using one rotator switch. It has two made of operation 'stop' and 'alternate'. It is chosen by using another rotary switch. When this switch is closed it operates on stop mode. The electromagnetic radiation stops after the preset time. When the switch is opened, it operates on alternate mode. This mode operates for preset time, and then pauses for same amount of time, this cycle repeats. This set up should be placed under the pillow while sleeping.

V. RESULTS AND DISCUSSION

This device produce electromagnetic field which makes the surrounding fit for deep, sound sleep.

Mainly, it avoids the use of sleeping pills by the people who are unable to sleep. It induces prolonged sleep. Using this device, we can able to research further more. This device helps depressed and insomniac people for their deep sleep. It makes the surrounding suitable to sleep well. It does not produce any side effects

VI. CONCLUSION

At first, The electromagnetic coil produced by this device is having strength of very small range. Hence the measurement of magnetic field is difficult. By getting propesources from tank circuit the radiator coil started working automatically. So this device is not harmful to the brain. Hence it is grateful for sleep disorder cases. It helps insomnia patients to sleep well. They can easily recover from sleep disorder. It is easy to operate.

VII. REFERENCES

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