Title:
Laser Technology

Word Count:
574

Summary:
Laser technology is used in almost every scope of life, from the miniscule lasers in CD players to the lasers used to scan groceries in the checkout line to the massive lasers in aeronautics design. The discovery of laser technology and the subsequent building of ever-improving lasers have benefited the human race tremendously, particularly through medical advances. Medical lasers cause medical procedures to be quicker, better, and easier than their traditional counterparts. ...

Keywords:
laser,technology,printer,beam

Article Body:
Laser technology is used in almost every scope of life, from the miniscule lasers in CD players to the lasers used to scan groceries in the checkout line to the massive lasers in aeronautics design. The discovery of laser technology and the subsequent building of ever-improving lasers have benefited the human race tremendously, particularly through medical advances. Medical lasers cause medical procedures to be quicker, better, and easier than their traditional counterparts. The only drawback is increased cost.

In 1917, Albert Einstein was the first person to suggest the basics of what would become lasers, by discussing the theory of Stimulated Emission, which is a type of electron transition in which a photon is emitted from an atom causing a chain reaction with other atoms to repeat the action. In fact, the word laser is an acronym for Light Amplification by the Stimulation Emission of Radiation. Charles Townes, an American physicist, further developed the idea with microwave (invisible) light in the mid- to late-50’s and Theodore Maiman built the first working optical (visible) light laser in 1960. Improvements and variations on hundreds of kinds of lasers continue to be made since the 1960s. Those involved in quantum mechanics have been studying some form of lasers, either in theory or in reality, since the 1920s. Uses for laser technology are widespread and are included in such important fields as medical/surgery, communications, design, manufacturing/industry, and research.

Medical/Surgery

The advancement of medical lasers has vastly improved the ease and success of surgery. The cost, however, is greater than that of other treatments, though scarring is much less with lasers and lasers work much more quickly than older surgical options. Incisions are more precise and easier to control. Some medical areas in which lasers have deeply refined treatment options are in laser eye surgery, oncology, neurosurgery, cardiology, dermatology, veterinary surgery, and dental surgery.

Communications

Televisions, telephones/ cellular phones, and computer systems all benefit from the use of lasers. Lasers are able to carry the huge amounts of channels and frequencies required by these high-tech devices. Lasers have proven the best communication device to have in the space age.

Design

Lasers have transformed the world of design by making it possible for designers to perform with precision that was previously unavailable. Lasers are used to design digital and three-dimensional objects with much more ease and accuracy through scanning, cutting, copying, and digital archiving. From designing a building to designing landscape, lasers prove to be the best option for fast and easy design.

Manufacturing/Industry

Lasers have improved the manufacturer’s ability to produce tenfold. For example, with a laser cutter, a clothing manufacturer can have fabric patterns cut much more quickly and more accurately in no time. A jeweler has much more precision on his side when employing lasers to work on fine gems. Airplane designers can construct an aircraft much more efficiently and with greater results using laser technology.

Research

The use of lasers in research enables scientists to uncover much more detail and detect very slight movement when studying matter. The lasers can be tailored to only respond to certain colors or movements and, in that way, they provide much more specialized work in research environments.

The world of laser technology is always expanding by producing new applications and ways to benefit people. The dependence that the modern culture has on lasers is amazing considering that it was not prevalent until the past forty years.