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Technique To Differentiate Between Original And Bootleg CDs Developed

ScienceDaily (Dec. 6, 2008) — A group of scientists at the University of Granada has developed a new optical technique which permits to know if a Compact Disc (CD) is original or a copy. This new technique is economical, fast and effective, and allows to detect illegal CD copies.

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Optical CDs are at present the most extended physical means of distribution of digital information around the world. However, bootlegging in this sector is a serious problem which involves important economic losses and which has not been solved up to now.

Original CDs are made by printing, through a process which is profitable for large print runs. However, copies are obtained by performing a series of marks on the surface through the “burning” with laser of commercial recorders on an organic material with which a series of spiral grooves are made in a blank CD.





Through the new technique proposed by the scientists of the Department of Optics of the UGR it is possible to identify if a CD has been recorded using a method or a device different to those used in industrial processes, which allows to differentiate between original CDs and copies. This technique uses the phenomenon of light diffraction on a CD surface to appreciate the differences between original and bootleg CDs, as they generate different types of diffraction models.

DVDs too

This technique has also been tested in DVDs, where it has also been validated, and they intend to develop it for the detection of bootleg CDs for latest generation devices such as Blue-Ray or HD-DVD.

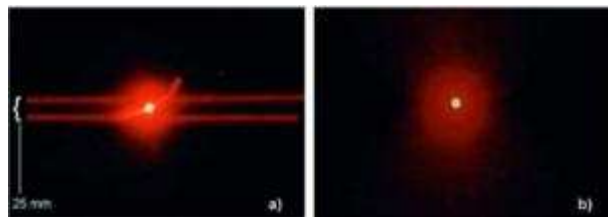
The study has been recently published in the American Journal of Physics, and a patent application has been submitted. The Group in charge of this research work is composed of members of the Department of Optics of the University of Granada (Javier Hernández Andrés, Eva Valero Benito, Juan Luis Nieves Gómez and Javier Romero Mora), and by José Fernández Dorado, a student of Physics who is now carrying out his doctoral thesis in the Centre for the Development of Sensors, Instrumentation and Systems of the Technical University of Catalonia.

Adapted from materials provided by [Universidad de Granada](#).

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Diffacted laser light patterns for a) a burned CD and b) a pressed CD. (Credit: Image courtesy of Universidad de Granada)

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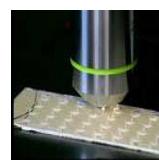
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