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New optical technique differentiates original CDs, DVDs from copies

December 8, 2008--Scientists at the University of Granada's (Granada, Spain) Department of Optics have designed a new optical technique to differentiate between original and "bootleg" compact discs (CDs) and DVDs by using light diffraction. Optical CDs are at currently the most extended physical means of distribution of digital information around the world; [illegal copying is a serious problem](#) that involves important economic losses.

Original CDs are made by printing, through a process which is profitable for large print runs. By contrast, copies are produced by making 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. The new technique detects whether a CD has been recorded using a method or a device different to those used in industrial processes: It uses light diffraction on a CD surface to appreciate the differences between original and bootleg CDs, as they generate different types of diffraction models.

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 published in the *American Journal of Physics*, and a patent has been requested. 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.

Posted by *Barbara G. Goode*, barbarag@pennwell.com.

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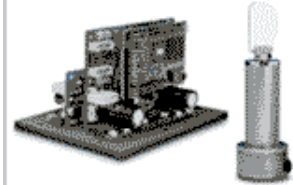
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