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NASA TECH BRIEF



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Optically Activated Magnetic Recording Tape

An optically activated data storage medium has been developed on which the recorded signal can be seen as well as electromagnetically reproduced.

On the recording tape is a thermoplastic layer in which rod-shaped, electrically conductive, half-wave dipole particles are embedded. The particles remain fixed until the thermoplastic layer is fluidized by heat. When this is done in the presence of an electric field, the dipoles are aligned with the field, and the particle concentration forms a visible image of the recorded signal. A focused laser beam supplies the heat to locally fluidize the thermoplastic layer.

Recorded signals may be erased by again fluidizing the thermoplastic layer and randomizing the orientation of the dipoles by applying a rapidly fluctuating electric field.

Because of the extremely small area heated by the focused laser beam, very high data packing densities may be achieved by this system.

Note:

Requests for further information may be directed to:
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Reference: B70-10247

Patent status:

Inquiries about obtaining rights for the commercial use of this invention may be made to NASA, Code GP, Washington, D.C. 20546.

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