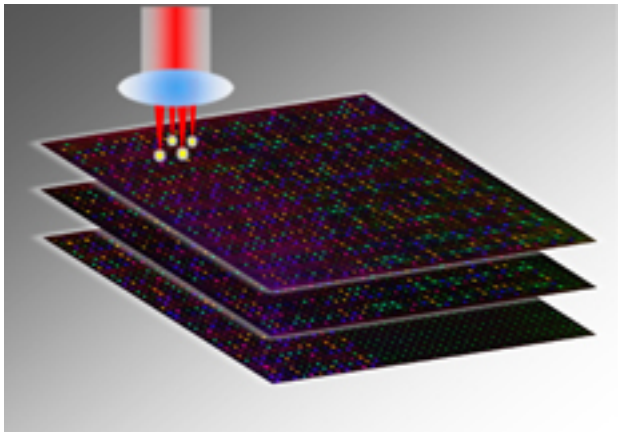
Specially arranged sheets of nano-structured glass might make the storage material of the future, University of Southampton researchers say-- creating storage with a shelf life of over 1 million years and thermal stability of up to 1000°C.



As you might now, modern storage technologies (from magnetic tape and Blu-ray discs to HDDs and SSDs) can only hold data for a few decades or so.

“This is the first time real data has been recorded and retrieved using this technique,” lead researcher Jingyu Zhang says. “We successfully designed a new system and recorded a PDF file inside of the glass.”

A paper titled "5D Data Storage by Ultrafast Laser Nanostructuring in Glass" explains the novel-sounding technology. It uses the 5 dimensions of glass-- the traditional 3 (length, width, height) plus axis orientation and "birefringence," meaning the way the material refracts light.

Using the 5 dimensions allows one to store 3 different bits of data on a nanostructured spot of glass via ultra-fast femtosecond lasers.

The researchers claim the glass stores up to 360TB of data. Reading such storage requires a

device similar to an optical disc drive, but a writer demands a much bulkier apparatus.

The high cost of femtolasers means the technology will not become commercial any time soon, but the researchers suggest it can take on cloud storage applications, as well large archives handling vast amounts of documents.

Go 5D "Superman Memory" Crystal Could Lead to Unlimited Lifetime Data Storage