

This is a preview of the full article

New Scientist full online access is exclusive to subscribers as part of their subscription package.

Registered users are given limited access to content, [find out more](#)

[login to your account](#)
[Get full online access](#)

Pay only \$1.94 an issue - saving over 60%

Gain instant online access - Including 20 years of archive

Receive New Scientist magazine delivered to you every week

Access the most comprehensive round up of the latest news in science

[subscribe](#)
save over 60%

[Home](#) | [Physics & Math](#) | [Tech](#) | [News](#)

'Anti-laser' traps all incoming light

02 August 2010 by [Jeff Hecht](#)

Magazine issue [2772](#). [Subscribe and save](#)

Call it the anti-laser. Instead of amplifying light, it would soak it up completely, leaving utter darkness.

A laser shines by producing a cascade of photons that bounce around inside a light-amplifying material before exiting from one end. A team at Yale University wondered what would happen if they could reverse the process, making the material absorb rather than emit a laser beam.

Most lasers emit from one end, but it's also possible to make lasers emit two identical beams in opposite directions. This requires having identical, partly transparent layers at both ends of a slab of a light-emitting material such as gallium arsenide.

The researchers calculated that if a light-absorbing material like silicon were used instead, then at certain wavelengths, two identical laser beams shone directly at each other would completely cancel themselves out inside the material.

A paper-thin slice of silicon would normally absorb about 20 per cent ...

To continue reading this article, subscribe to receive access to all of newscientist.com, including 20 years of archive content.



To continue reading this article, log in or subscribe to New Scienti

subscribe

save over 60%

Not in the US?
Choose your region:

- UK
- Canada
- Australia or New Zealand
- Rest of the World

login to your account

Get instant access, plus a saving of over 60%

Pay only \$1.94 an issue, equalling \$99.00 for an annual subscription.

A subscription to New Scientist provides you with a complete package for all your science news, comment and analysis, for work, studies or conversation. Keep up-to-date with key global science topics allowing you to always remain 'in the know'.

A subscription includes; New Scientist magazine delivered to you every week and subscriber-only access to NewScientist.com 24/7, including 20 years of online archive.



search New Scientist

Go

Logi

About us

- New Scientist
- Syndication
- Recruitment Advertising
- Staff at New Scientist
- Advertise
- RBI Jobs

User Help

- Contact Us
- FAQ / Help
- Disclaimer
- Ts & Cs
- Cookies
- Privacy Policy

Subscriptions

- Subscribe
- Renew
- Gift subscription
- My account
- Back issues
- Customer Service

Links

- Site Map
- Browse all articles
- Magazine archive
- NewScientistJobs
- The LastWord
- RSS Feeds
- Online Store
- Android App
- Mobile site home

Science Jobs

- Biology Jobs
- Chemistry Jobs
- Clinical Jobs
- Sales Jobs
- Earth & Environment Jobs
- Engineering Jobs
- Maths & IT Jobs
- Graduate Jobs

© Copyright Reed Business Information Ltd.