

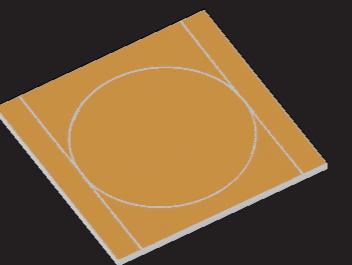
What are microcombs?

Why light?

Light is made up of a rainbow of colours ranging from very blue to very red. Light moves as waves and each colour oscillates at a different frequency. Frequency is based on how many waves cycle per second. Frequency tells us the energy of the wave and its corresponding colour. Colours with higher frequencies look bluer while colours with lower frequencies look redder.

What is a microcomb?

Microcombs are compact, inexpensive and easy to operate optical frequency combs. They're still in the experimental phase of development but could revolutionise science.



What are optical frequency combs?

Optical frequency combs are the world's most precise rulers. They use light and can be used to measure position, frequency and time.

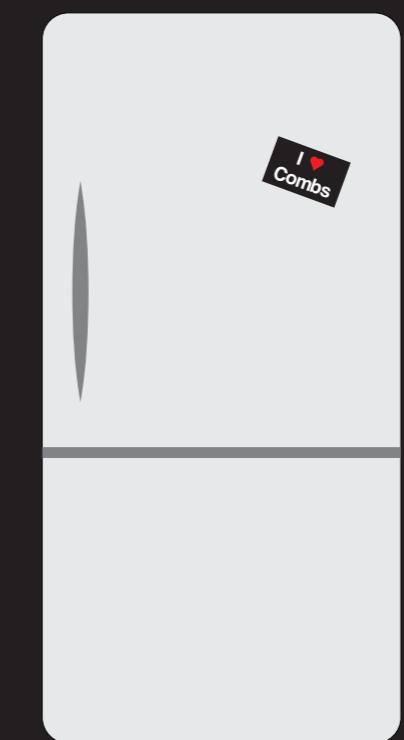
Why are they called combs?

Combs produce light at different evenly spaced frequencies that look like a series of spikes. Scientists thought these spikes looked like a comb you would use in your hair and named them accordingly!



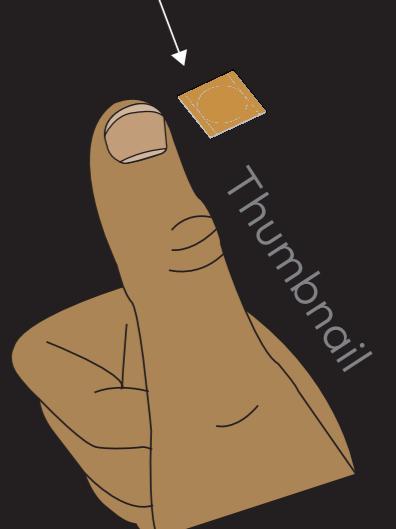
Why do we need microcombs?

Optical frequency combs are an amazing technology but are too big, expensive and complicated for everyday life. At COMBS, our researchers are working to shrink these combs to the size of a thumbnail to make them cheaper and easier for people to use.



Current comb size

Microcomb size



Fridge