

Moths inspire the solution for screen glare problem

A STEALTH capability that helps moths avoid predators could lead to smartphones and tablets that are easier to read outside.

Moths' eyes are covered with tiny structures that prevent them reflecting light and alerting night-time hunters looking for a meal. They also help the insects see in the dark.

Scientists have copied the moth nanotechnology to produce an anti-reflective film that allows words and images to show up clearly on mobile devices even in bright sunlight.

The film reflects just 0.23 per cent of the light falling on it, far less than the 4.4 per cent reflected from the surface of an iPhone. Strong light bouncing off a screen washes out the display, making it necessary to run for shade to check your emails.

Dr Shin-Tson Wu, lead researcher from the College of Optics and Photonics at the University of Central Florida, said: "Using our flexible anti-reflection film on smartphones and tablets will make the screen bright and sharp, even when viewed outside.

"In addition to exhibiting low reflection, our nature-inspired film is also scratch resistant and self-cleaning, which would protect touch screens from dust and fingerprints."

The technology is described in latest issue of the journal *Optica*. To get round the reflection problem, many smartphones use a sensor to detect bright ambient light and boost screen brightness. While this improves readability, it also drains battery power.

Looking for a better solution, the researchers eventually decided to seek lessons from nature.