

Tunable Windows To Keep Office Secrets

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Secrets that zip across offices through wireless computing networks all too easily also zip through office windows into the hands of competitors – now researchers at the University of Warwick have devised a method of producing tunable surfaces that can selectively block signals from wireless networks from spilling out of the office.

Dr Christos Mias, in the University of Warwick’s School of Engineering has developed a “dipole grid based frequency–selective surface” (also known as an FSS surface) to perform this task. This grid of circuitry has the potential to be embedded in any glass window and then tuned to block the selected frequency. This ability to tune the circuit is triply useful. Firstly it means that the circuit can easily be tuned to block a different frequency if circumstances in the office change without having to remove the window or the embedded circuits. Secondly it allows for different window material variations– normally the variations in the type of glass used would mean that you would have to develop bespoke blocking circuits for each window – but by having a tunable system one can then have a one size fits all set of circuitry which can simply be tuned to match the glass type. Thirdly it can compensate for small FSS fabrication errors.

Dr Mias has already worked with colleagues in other universities and institutions to produce non-tunable FSS configurations on standard domestic glass. Both, optically transparent thin-film and opaque micromachined conductors have been employed attenuating the power of the incoming signal, at selected frequencies (above 20 GHz) by 100 to 1000 times.

Source: University of Warwick's

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