
Cloaking Devices and Transformation Optics

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We describe recent theoretical progress on making objects invisible to detection by electromagnetic and other type of waves. Ideas for devices that would have once seemed fanciful may now be at least approximately implemented physically using a new class of artificially structured materials called metamaterials. Maxwell's equations have transformation laws that allow for design of electromagnetic material parameters that steer light around a hidden region, returning it to its original path on the far side. Not only would observers be unaware of the contents of the hidden region, they would not even be aware that something was being hidden.