

Chirality cheating device achieved with transformation media

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The importance of chirality originates from asymmetric synthesis where molecular chirality is highly valued[1, 2]. To achieve chirality cheating, we firstly generalized the connection between the behavior of electromagnetic waves in physical space and operations on space regions[3–5]. Based on this point, we give the design of transformation mirror and extend it to three-dimension as the chirality cheating device which disguises specific chiral objects inside as their mirror images. Then numerical simulations are employed to demonstrate that such devices create mirror planes in two-dimensional and three-dimensional spaces while hiding themselves perfectly to far-field observers[6].

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