

Re: low em wave shield

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From: Edward Green (*spamspamspam3_at_netzero.com*)

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Sam Wormley <swormley1@mchsi.com> wrote in message news:<MdUZc.24988\$_g7.6658@attbi_s52>...

> *Paul wrote:*

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>>

>> *Some say, the cage will radiate whatever em wave that's inside the*

>> *cage and block what's outside? Can someone verify?*

>> *Since our world has lot of em waves and humans also radiate em waves,*

>> *does that mean, a human inside a cage will not receive em waves from*

>> *outside and outside world can receive some em waves from the cage?*

>> *Does the cage blocks all frequencies?*

>> *Does the cage have to be grounded?*

>>

>> *Thanks*

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> *Faraday Cage*

> <http://scienceworld.wolfram.com/physics/FaradayCage.html>

>

> *A conducting cage used to shield electronic equipment. Amazingly,*

> *the law of electrostatics conspire so that electric fields outside*

> *are completely canceled out in the interior, as well as vice versa.*

Quibble city:

The net charge inside the cage will certainly make itself felt outside the cage (Gauss's Law).

Just what is the correct statement of the modification of the field of a charge enclosed by a conducting shell? We are given the shape of one equipotential (the shell), and the surface integral of E on the shell, or any surface enclosing it. On the shell itself the form of the integral is particularly simple, since E is perpendicular to the surface.

But is that enough to determine the field everywhere? I could produce many fields with a given equipotential, but varying field strengths on that equipotential. Is it enough if the space is free of other

sci.physics: Re: low em wave shield

sources? Do I need a further boundary condition at infinity?