Subject: Re: Are the field lines the trajectory of a particle with mass M?
Posted by R.G. Stockwell on Sun, 14 Mar 2004 17:40:03 GMT
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"pakachunka" <pakachunka@yahoo.com> wrote in message
news:d6fc922e.0403131602.8ec07b2@posting.google.com...
> I believe the field lines are not the trajectories... but a friend of
> mine is driving me crazy, because he says they are.
>
> How can I demonstrate that field lines are not the trajectories?
>
> I mean: what are field lines, to start?

Following James' anwer, if it is gravity or electric _force_ field,
simply swing a cat on the end of a rope, and point out that at no
time is the force (tension along string ignoring gravity etc) lined
up with the trajectory. ie the "force field line" is always towards the
center of the circle.

cheers,
bob

PS since this is an IDL group, I'd write a program to solve
the equations for circular motion, and draw the velocity vector and
force vector and many discrete points, and perhaps animate it.