

## Re: Interstellar Propulsion idea using an Asteroid and a few comets!

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<re: encounters with sand and dust>

[From: "N:dlzc D:aol T:com \ (dlzc)" <N: dlzc1 D:cox T:net@nospam.com>

> |Likely it will be the same stuff as populates the coma for a comet.

>

> |Can that likelihood be changed by flying the ship with a very strong  
> magnetic field around it at all times?

|

|Likely not. The stuff in interstellar space is likely in ground state,  
|and really cold. A magnetic field would merely drain your energy.

To some degree, a faint magnetic field will exist if *any* of the systems are turned on. Since a hibernating crew has to be kept above a certain, minimum, subzero temperature, there is always going to be SOME drain somewhere. The magnetic field may be so faint as to have only quantum effects, if any. So the question here, is whether the quantum effects will cancel out over the "long haul." And for the "short haul," whether quantum effects can even be detected.

I expect an interstellar ship to have dishes for concentrating signals, and for imaging background radiation. The dishes might even be capable of reorientation, or they might not. Since Earth may well spend a few years shining a beam of light in the direction of the departing probe as both an 'impetus assist' and for communication purposes, we can expect onboard systems to be busy imaging local space as it goes. 'Compressed' data gets passed back to earth regularly, until it is no longer worthwhile to do so.

> |Almost no structure, and any really powerful collision will spray  
> |a lot out into space, never to return.

>

> |That's why I was hoping a 'hibernation' could travel a lot slower, at  
> |least slow enough that automatic evasive procedures could be taken to  
> |avoid interstellar rocks and gravel. Still, some of the other stuff  
> |is sure to collect regardless.

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> |Be better to harvest it every six months or so.

>

> |That might not be a good idea for hibernating people?

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|Could be done by machine. Presumably, the purpose in collecting the stuff  
|is to provide heating, manufacturing, recycling, propulsion, defense, and  
|communications.

For the first few interstellar probes, spectral analysis would be sufficient (and then jettison it in the right direction if it isn't worth the effort to keep it). Later on, it might be worth the effort to go in the direction of "gravel fields" and "sand bars" – or avoid them.

> |Maybe, rotating the plow asteroid slowly...

>

> |Wouldn't rotating a fairly fast, energetic object cause it to develop

> |magnetic fields? ...I'll confess my ignorance here.

|

|Only if it is charged, and the charge is not all located near the center of  
|rotation.

As a ship travels, it gains and loses charges randomly, doesn't it, according to quantum laws? So at any given time there will be a brief but faint magnetic field supplementing the fields that are deeper inside the ship?

> |Assuming there are nuclear reactors powered by fission, and turbines

> |rotating to generate electricity, would rotating the thing create a

> |whole bunch of magnetic patterns, no simple north and south poles,

> |but a whole bunch of poles?

|

|No, the poles would be at near the interections of the axis of rotation  
|with the surface. Much like it is with the Earth.

Even Mars has numerous faint magnetic poles, all of them lingering on from aeons ago, back when it had a hotter and more liquid core.

If the ship has a core that is spinning, and charges are allowed to travel around the charge, won't that be enough to induce a field around the ship?