

# Re: LSAM

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- *From:* "tomcat" <[jlavine@xxxxxxxxxxxxxx](mailto:jlavine@xxxxxxxxxxxxxx)>
  - *Date:* 12 Apr 2006 08:14:02 -0700
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Brad Guth wrote:

I've read the page. You expect to drop a tether from a distance 58,000 km from the moon to the moon and anchor it?

That's basically the idea, as having to work this initially from the top down, although dozens of methods come to mind that should be discussed in specific detail. Once something of robotic fiber manufacturing is established upon the surface of the moon, as then it's a process of building this tether capacity from the bottom up.

1738 km? I thought you started from 58,000 km? Please explain what the 1738 km is vs. the 58,000 km, distance?

Sorry, I'm obviously confusing you with silly facts.

1738 km is the distance from the center of the moon to it's surface. I believe that's called radius or  $r_1$ . As opposed to dealing with the 6 fold greater gravity of mother Earth and of Earth's  $r_1 = 6378$  km, whereas upon the moon the tether loading is obviously starting off at 1/6th G, and it's obviously becoming further improved by another 4:1 once having gone a mere 1738 km above the deck, as opposed to the ESE and spendy CNT fiasco taking 6378 km plus having 6 fold greater initial gravity factor to start with. therefore, the LSE tether application is so much better off than just the 6:1 advantage.

1/6th G means that the basalt composite tether itself weighs 1/6th to start off with (say  $2.8 \text{ g/cm}^3 / 6 = .4667 \text{ g/cm}^3$ , whereas 1/6th the weight at 1/6th the gravity is what I perceive gives this tether application a potential 36:1 advantage, and/or receiving the little extra benefit of  $6378/1738 = 3.67:1$  squared. In other words, as the LSE tether trails away from the surface of the moon (as headed for LL-1), it's starting off with having at least the 6:1 advantage and it's getting so much lighter so much quicker than comparative to what the ESE tether has to deal with, and there's obviously damn little if any factors of weather to contend with, supposedly few if any commercial aircraft, lighting should not be a factor, there's currently no lunar Taliban that'll be trying to take it out, and hopefully no

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Greenpeace or ELF protestors to get rid of.

As compared to the ESE tether mass self-loading.

I'm thinking a