

### Offered Title: Dark Matter – It's About Gravity

I've written about the search for dark matter and what it might be. What I haven't discussed is the concept that drives our need to figure it out...the connections among matter (mass), gravity, and energy. It is driving scientists nuts that they haven't connected the dots completely yet.

All matter we know of (maybe except for photons) has mass and mass is associated with gravity. Gravity is currently described as a distortion (curvature) of spacetime around mass. All we really know is that this association exists, and according to general relativity is considered a phenomenon, not a force. If it were a force, there must be a field/particle that facilitates it. So far, no particle or field has been identified. Hmm, sounds like dark matter to me.

So, I wonder, might dark matter be gravity? Pure speculation and I really have no basis to make the claim other than we do not know what either is. This just seems too coincidental to me.

We do know that dark matter has gravitational affects, but that's all we know. If dark matter is gravity, then it has properties separate from what we currently understand. Does this mean we're barking up the wrong tree with the esoteric, sophisticated, and very expensive experiments currently underway? No idea. It might mean the search will require several iterations before we hit gold. I am confident we will. And I am confident it will result in a new era of enlightenment.

I think it might even lead to our understanding of dark energy!

Whew, after catching my breath, I admit my thoughts are out there. Dark matter might simply be a lot of little dark stuff that we currently can't measure due to limitations in technology. Or it might be a new elemental substance. Either way, we are still stuck with not knowing what makes gravity work. Myself, I like killing two birds with one stone. This might work for quantum mechanics too. They'd have their "graviton" particle to explain gravity, as well as the dark matter question solved. Neat.

If my wacky idea pans out, it means a huge shift in thinking about matter and gravity. We now assume gravity is dependent on matter's mass, we can measure how gravity appears to be modified by mass. If dark matter is gravity it means dark matter interacts with normal (baryonic) matter in predictable ways. Current thinking is that dark matter rarely interacts with baryonic matter. If dark matter is gravity, then it perhaps modifies baryonic matter's mass, a reversal of the mass – gravity concept.

Don't quote me. But, if it's found to be true, you read it here first.

### What's in the Sky?

Halley's comet's tail is coming!

Oct 21; pre-dawn; east: The Orionid meteor shower peaks later in the morning but check it out early. It occurs as the Earth passes through dust and pebbles, remnants of Halley's comet tail from previous orbits.