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Does dark matter really exist?

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Abstract

The physical metric in general relativity has been introduced by the author as the exact solution of Einstein equation that fits the observation of time delay measurement of the solar system. Applying the physical metric to the galaxy with a simple assumption of mass density and pressure, one can find that the gravity acts a repulsive force inside the galaxy. The attractive force inside the galaxy is provided by negative pressure. As a result, one gets the velocity distribution in the galaxy that is very similar to the observed one. This indicates that the necessity of dark matter from the velocity distribution of the galaxy does not exist.

If you've ever read anything from the field of physics, you'll most likely be aware of the topic of dark energy, or dark matter.This theory is widely accepted among astrophysicists and suggests that around 96% of the universe is unobservable.

That is to say we are almost certain a huge volume of matter and energy exists beyond the atoms we can observe, but we are simply unable to actually measure it in any way.

Hundreds of millions of pounds have been spent searching for dark matter. Physicists have been searching for three decades. Not only have they not found it they still don't know what it is that they are looking for.

Jonathan Leake, ST science editor, explains that in the 1980s scientists decided that over a quarter of the universe was made up of dark matter.

Dark matter itself was decided to be made up of subatomic particles that if looked for properly could be found, could be really significant to science and technology and could win someone a Nobel Prize.

Some of the money spent on looking for it is your money. Britain is part of the search; with contributions to the Lux project in South Dakota and its own dedicated project in a salt mine in Cleveland. The Large Hadron Collider tried to create dark matter. It has failed so far.

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Dan Hooper of Fermilab, who are looking for dark matter too, thinks it is possible that he has found a particle of it.

All this data, all this analysis, all this investment, all these scientists, they might just find something to explain everything. Or not… it's too early to tell.

At MediaCom we think we have found something to explain everything. Global CSO Matt Mee launched the Hofstede project at Cannes this year. It explains the different cultural dimensions of nations.

Culture according to Mee is the dark matter of insight. Cultural dimensions direct our behaviours in ways that we are completely unconscious of day to day. In the most fascinating way they tend to override other divides of class, status, age and gender.

Geert Hofstede developed his original model as a result of using factor analysis to examine the results of a world-wide survey of employee values by IBM between 1967 and 1973.

It describes the effects of a society's culture on the values of its members, and how these values relate to behaviour.

If you've ever worked across markets the cultural differences will resonate with you.

If you're looking to understand why a nation behaves in a way that doesn't seem to make sense, such as an election result or a referendum outcome this will help.

Cultural archetypes are strong, and the original research showed the consequences for business communications.

MediaCom have now updated the original survey with radical effect, and are creating unique insight into how different techniques should be deployed across geographical regions. Just because Luxembourg, Belgium and the Netherlands are lumped together as Benelux, it doesn't mean that the same ads will work in the same way in each market, nor can packaging or promotion expect the same returns.

Across EMEA, the Americas or Asia this is even more profound. The analysis explains why a creative will fly in one country and die in the neighboring market.

Adjoining markets don't work homogenously. Distant markets might surprise by being very similar. It's time to lift the lid on the dark matter of culture, and celebrate and leverage the real differences between nations.

We might not know the secret of the universe, but we know now the secret of why one particular car ad worked brilliantly in Bruges but flopped in Amsterdam (and it has nothing to do with the windmills.)