

A modern view for recognition the universe

Professor Hessaby's Theory

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There are several intricate problems and issues in contemporary Physics which still remain unsolved after 90 years of presentation of relativity and quantum mechanics theories which occupy the minds of almost all of scientists .

One of these problems which is very important is definition of " Mass " , particularly for fundamental particles and the world of the very small particles.

The history of discussions in this regard refers to 70 years ago , after presenting general theory of relativity by Einstein . In this theory , three different modes and subsequently there are three definitions .

One of these definitions , which is still accepted as Mass definition by some people, is Proper Mass .

While a particle in tranquility mode m_o , with high velocity moves , its mass will be increased by coefficient, γ ($m = \gamma m_o$) , this definition originally refers to special relativity and Lorentz transformations , but it was accepted as Mass definition after general relativity. Therefore , it was concluded that Mass is a proportional definition .

In relativistic dynamic and its transformations , and on the basis of tensors of general relativity , we see that mass will depend on observer situation and this kind of definition of mass can't be a suitable one .

Some scientists , propose the Mass definition the same as mass in particle tranquility mode , which is not appropriate enough to explain what the mass itself refers to .

Some others like Weyl, considered mass as Inertial Mass which we know it as $m = P/u$

It means the particle mass equals to the momentum of particle divided to its velocity .

Or some others like Mach , defined the mass in this way ; $m = F/a$

All of these definitions , have their own serious limitations .

Maybe it's not necessary to know the definition of mass in physical calculations , however , all the above definitions are used continuously .

But while going toward very tiny fundamental particles in different conditions , none of the above definitions will present original functions , because they don't distinguish how a particle with specific mass , shows particle-wave and property together and where these two modes are located ?

If we consider the particle only as a point mass then it will lose the wave features and we'll get into some troubles in our equations (insignificant problems but very serious ones).

And this is the same problem ,which Professor Hessaby , not only solved but also offered a new Mass definition which contains all known mass modes .

By taking deep consideration in this theory equations , we'll find out that he offered a new definition of mass which is compatible with all above definitions but different with all of them !

According to these equations , Mass is no longer a sphere or wave-shape thing , but the mass of each particle is in the shape of a pattern of the particle's energy density which reaches to its maximum in center of probability of the pattern .

This pattern continues to infinity and tends toward zero there , going more closely to the center of probability , the density will be increased and then leads to create a specific particle .

We surprisingly find out that Professor Hessaby demonstrated " Mass" is a field too , and in more accurate words , is another kind of unique and original field .

There are two key points in this definition ;

First , a particle mass isn't limited to a for example sphere , but, he demonstrated for the first time that the particle is extended infinitely .

The next point is the permanent question of physicists ; Do we have particle or wave-particle?

In fact , according to the above definitions , each particle pattern , can have both features at the same time .

The other point which Professor Hessaby offered solutions for that is the omission of a lot of infinite quantities in physic equations .

It's interesting to know that most of modern theories in theoretical physics which is famous now and find their way even to science fictions stories , are the result of omission of infinite quantities in previous theories .

Theories like : M-Theory , Loop Quantum Gravitation , Super Symmetry , Super Gravity and so on .

In Professor Hessaby equations in definition of mass , we observe that how he could omit the infinite quantities which are the result of definition in which particle is point . It is reminded that particle mass , according to previous definitions , is not particle wave anymore but is like a network of density patterns of each particle which is spread out all around the universe .

Thinking in such precious way , instead of going from small to big which offers infinity , move from infinite to the smallest , triggers the infinite changes into a known particle at last.

One of the other important issues in " **theory of infinitely extended particles** " , related to scientists' old dream for combination gravity with other nature forces in a theory form.

Analytically ,the theory succeeded to find the mass of a lot of particles .

At the end , we remind that the theory of infinitely extended particles , shows us several closed doors which will open another field of knowledge . So , opening these doors one by one is our duty .

Another concept is that , his theory is not finished but it's the beginning of developing researches which are necessary to be done .