

Recent application of classical mechanics

[Science](#), [Physics](#)



Recent application of classical mechanics Unit Introduction Classical mechanics has various interesting applications in real life situations. Taylor (20-22), asserts that it is used to explain a number of phenomena that people encounter on a day-to-day basis. For example, in sports, machines, designing mechanical systems, simple machines and parts of machines find lots of applications in classical mechanics. Additionally, in complex situations like launching satellites and rockets, application of classical mechanics plays a large role. Kibble also adds that laws have been derived in different and various methods and forms, like Lagrangian, Hamiltonian and Newtonian mechanics which are used according to the one that gives answers more conveniently and easily (19-20). A recent application of classical mechanics that has happened within 6 months is an update of speed of light, where the OPERA at CERN experimented and got results that indicated some neutrinos moved faster than the speed of light, (Speed of Light Update 1).

This result was quite surprising because the theory of Einstein has been confirmed a number of times, in terms of limit of the universe, where this limit is said to be the speed of light. If a person takes the speed of light and the relativity equation indicated, this is implied as speed of light. However, if one takes a speed of light and plugs it into equations, then the results will give the answers, like energy that is imaginary. This means light speed can be separated, and the fundamental principles that exist can be understood as clearly invalid or incomplete (Speed of Light Update 1). However, according to Speed of Light Update (1), the physicists are skeptical on the overturn of consistent century that is evident on experimental theory, where it can take more than one irregular result. In other words, this is how things

work in science, where the theory is already in science, and has evidence, but again there can be a slow accumulation of that counters the theory. Therefore, scientists should refine or revise the theory in order to give an explanation of the new data. Taylor (20-22), asserts that, this is how Albert Einstein came up with relativity theory, in order to resolve the previous holes of electrodynamics and gravitation theories.

Experimentalists have already tried examining the above explained results to determine if they could find an experiment flaw, in order to prove the results are not correct. Additionally, theorists have already tried to figure or prove how the results can be true. Taylor (20-22) adds that recently there has been little success on these proofs because, all explanations proposed encounter a number of problems as well as contradict to other universal properties. However, the speed of light experiment worked because a group of neutrinos that were created at CERN travel to Gran Sasso National Laboratory 730 kilometers in Italy.

These neutrinos are said to be created by collisions at CERN, and therefore, one source of error can be said to be physicists not knowing exactly which collision neutrino came from. Some of the statistical methods that the physicists use in such cases are considered to be accurate and can lead to results that are unusual. To add to this, they tackle such challenges and work hard to get rid of fuzziness, instead of having a collision that is continuous, which in this case, it can be a beam of neutrinos that is more continuous. They break the beam into a 3-nanosecond, into short pulses, where each small pulse undergoes a collision and then these neutrinos travels to the detector in Italy. These results are said to be consistent with the findings

earlier on, where the neutrinos are said to have arrived 60 nanoseconds approximately, and neutrinos still seems to move faster than the speed of light (Domingues 1).

One common problem of this approach is that the experimentalists got few results, as well as were only able to carry out this test only 20 times.

Additionally, other tests will need to be run, both in laboratories and CERN. If these are results which only shows the OPERA experiment, then there will be a possibility of some type of equipment rather violation of definite physics laws. Domingues (1) also notes out that confirming results which have been carried out somewhere else would create this claim to a more solid, and go a long way towards convincing community of physics. If the theorists are to replicate such results, then this race will rely on physicists to create an explanation that will work.

Conclusion

For ages, scientists have believed that there is nothing, which travels fast than light in a vacuum, for 186, 000 miles speed per second. But experimentalists sent a laser pulse of light through a vapor cesium which left the hollow before it finished going in. The pulse moved 310 times, which is the distance that it would have taken if the compartment had enclosed a vacuum. Theorists claim that, this experiment is the most convincing display that the speed of light can be proved otherwise, under other laboratory circumstances. However, it does not generally hold the misconception that; there is nothing, which can travel faster than the speed of light. Right now this achievement has not had a practical application, but such experiments create an excitement among optical and theoretical physicists. There is at

least a breakthrough of what people considered impossible in speed of light experiment using classical experiments.

Work Cited

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