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Journal Name:	**Physical Science International Journal**
Manuscript Number:	**Ms_PSIJ_50248**
Title of the Manuscript:	**Dilation of Time and Newton's Absolute Time**
Type of the Article	Research paper

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This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty'**, provided the manuscript is scientifically robust and technically sound.
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PART 1: **Review Comments**

	Reviewer's comment	**Author's comment** *(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
Compulsory REVISION comments	The Authors should add more analysis and references both in the Introduction Section and in the Conclusions Section for comparison with other recent applied instrumentation techniques, such as – ttp://inspirehep.net/search?ln=it&as=1&m1=a&p1=stilwel&f1=&op1=a&m2=a&p2=&f2=&op2=a&m3=a&p3=&f3=&action_search=Cerca&dt=&d1d=&d1m=&d1y=&d2d=&d2m=&d2y=&sf=&so=a&rm=&rg=25&of=hb&sf=earliestdate&so=d – Astronomical fabry-perot interference spectroscopy A.H. Vaughan Ann.Rev.Astron.Astrophys. 5 (1967) 139-166 – Experimental determination of the single-photon transition rate between the S-213 and S-101 states of He i Joseph R. Woodworth, H.Warren Moos Phys.Rev. A12 (1975) 2455-2463 – Alternative Uses for Quantum Systems and Devices O.M. Lecian Symmetry 11 (2019) no.4, 462 - An optical search for ionized hydrogen in globular clusters. 2. J.E. Hesser,S.J. Shawl Astrophys.J. 217 (1977) L143-L147	We thank you very much for your contribution and your aid, especially for the valuable references. **Another Ives-Stilwell-type time dilation experiment [Botermann et al. 2015] using 7Li+ ions confirmed at a velocity of β=v/c=0.338 in the storage ring ESR at Darmstadt the time dilation factor γ to within $\pm 2.3\times10^{-9}$.** our changes in section 2 **2. Diffraction of light by a grating in moved inertial frames** In this section, we show using the example of a grating spectrograph that an optical arrangement would result in no effect caused by a change in the orientation in the space if one neglects the dilation of time. However, under consideration of time dilation, we find an error of the order of $\pm$ 3.6×10^{-08}. This value is extremely small, and, furthermore, it does not occur until after a period of three months. In Section 3, we show that this error is not detectable using today's means. Grating spectrographs are widely used to measure the absolute wavelength of light and to find series of lines for identification of atoms or molecules. One disadvantage of grating spectrographs is the great loss of light by the slit. This disadvantage can be avoided by interference methods. The Fabry-Pérot spectroscopy, for example, is often used to investigate the fine structure of a single line [24], especially in astronomy. A good overview of the use of Fabry-Pérot spectroscopy in modern physics, astronomy and astrophysics is given by Lecian [25]. The reason, why we do not use the Fabry-Pérot spectrograph as an example, are simply the mathematical difficulties. The grating spectrograph is mathematically easier to handle. changes at page 14 Vaughan [24] gave in 1967 a good introduction to the construction and the use of Fabry-Pérot etalons in astronomy. One reason for its success is the high resolution and the small loss of intensity. A comparatively small Fabry-Pérot interferometer can outperform the largest gratings and reach a resolution suitable for the narrowest spectral lines. Hesser and Shawl [26] describe in 1977 the use of a single-etalon Fabry-Pérot interferometer for the use of ionized hydrogen in globular clusters. Lecian [25] lists, besides a review of modern developments in General Relativity, Cosmology and Quantum Gravity, a wide range of applications of the Fabry-Pérot interferometer in particle physics, astronomy and astrophysics. Generally, the Fabry-Pérot interferometer is used as a frequency standard, a tunable optical interference filter, or as laser resonator. If one wishes to scan a frequency band then the Fabry-Pérot etalon has to be tuned. Fine-tuning of the optical path length in etalon cavities is achieved by mechanical or piezo-electrical change of the distance between the two mirrors, or by slight variations of the cavity's index of refraction. Such index of refraction variations are accomplished by varying the relative gas mixture in gas-gap etalons or UV-exposing doped glass layer(s) in solid etalons. Another method, for

		example, is the use of a liquid crystal cavity tuning element [27]. The linewidth Δv is the width of that range of the frequency interval that is occupied by a single line of the frequency spectrum. The linewidth is defined by the half-width of the peak, i.e. its width at the half height. One assumes as causes the general energy uncertainty of Heisenberg (resonance curve, Lorentzian function), and, in addition, the Doppler effect caused by the thermal vibrations of the emitting atoms or molecules. The course of the intensity, $I(v)$, over the frequency v is similar to a Gaussian function (bell curve) with its maximum at frequency v_0. For example, the H_α-line of the Balmer series of hydrogen with λ=656.4 nm has a thermal line broadening of $\Delta\lambda$= 0.0036 nm at the temperature of 60 K, and at the temperature of 6000 K a thermal line broadening of $\Delta\lambda$= 0.036nm. The natural line width for the Hα-line is $\Delta\lambda \sim 2\times10^{-5}$ nm.
Minor REVISION comments		
Optional/General comments		

PART 2:

	Reviewer's comment	**Author's comment** *(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
Are there ethical issues in this manuscript?	*(If yes, Kindly please write down the ethical issues here in details)*	