



## Some Concepts of Classical and Modern Physics (In the Light of the Holy Qur'ān)

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**Abstract:** "The Holy Qur'ān is the book of Allah Almighty revealed to the Holy Prophet Muhammad (upon whom be peace and greeting) approximately fifteen centuries ago. The verses of the Holy Qur'ān guide mankind to spend their lives according to the will of Allah and enchant them to ponder over the phenomena of the universe and its different aspects. In the contemporary age of modern science, the research has received special focus to explore the scientific facts in the context of the Holy Qur'ān. Allah Almighty has revealed some scientific facts in the Qur'ān that are affirmed by science today. This inimitability of the Qur'ān secures and heaves the belief of its followers and proves its worth on non-believers. The different words of the Qur'ān have signs for the researchers to contemplate the different verses of the Holy Qur'ān but also the sayings and research of various scholars of past and present motivate to examine the association between the scientific phenomena and Qur'anic verses. The paper aims to explore the verses of the Holy Qur'ān in perspective of different branches of classical as well as modern physics like aerodynamics, thermodynamics, energy, radiations, hydrometeorology, and quantum mechanics".

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## Introduction

The Holy Qur'ān is the book of Allah Almighty which guides the humanity for the development of welfare state. The Qur'ān is not only the book of command and order but it is also the source of knowledge. The verses of the Holy Qur'ān opens new avenues to know the sciences of the universe. The study explores the sciences which was mentioned in Holy Qur'ān which interacts the scholars and scientists to investigate deep way out for further research. Therefore, in the contemporary age of modern science, this research provides special focus to explore the scientific facts in the context of the Holy Qur'ān. Allah Almighty created the universe for living humanity. The humanity was granted knowledge for serving of Allah Almighty and investigating the right path with best knowledge. This distinctiveness of the Qur'ān displays for its readers and researchers to draw new methodologies for inventions and discoveries from the phenomena's of nature and universal components. The study needs to explore new aspects for the human knowledge emphasizing physics and its other branches.

The literature review is diversified the branches of physics but there was not found any material related to Qur'ān and physics. Some work is mentioned like: *Classical Physics Review for Modern Physics* for understanding of the students they study and do the research in this field. Similarly, the article: *Debates on Causality in Islamic Kalām and Modern Physics* was compiled by Ahmet Mekin Kandemir, provides some awareness of casual physics with modern theories.<sup>1</sup> The present research fills the gape with exploration of modern physics in the light of Holy Qur'ān.

In this case, the descriptive and analytical method is the tools of the research from the Qur'ānic verses to open new research phases. It is a well-known fact that the Qur'ān is a book of religious guidance but on the other side it also induct us to ponder over the scientific nature of its verses. The different verses of the Holy Qur'ān

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1- [https://www.researchgate.net/publication/341784106\\_Debates\\_on\\_Causality\\_in\\_Islamic\\_Kalam\\_and\\_Modern\\_Physics](https://www.researchgate.net/publication/341784106_Debates_on_Causality_in_Islamic_Kalam_and_Modern_Physics), accessed at 15-04-2021.

give us motivation to ponder over the physical phenomena of nature. The sublime verse of *Sūrah Muḥammad* presents the fact as:

﴿أَفَلَا يَتَدَبَّرُونَ الْقُرْآنَ أَمْ عَلَى قُلُوبٍ أَقْفَالُهَا﴾<sup>2</sup>

“Do they not then earnestly seek to understand the Qur'an, or are their hearts locked up by them”?<sup>3</sup>

The Qur'ān contains the knowledge of classical and modern sciences. The great scholar *Imam Jalāl-Dīn al- Suyūṭī* (d.911H) says in this context:

وَأَمَّا الْهَيْئَةُ فَنَفِي تَضَاعِيفِ سُورِهِ مِنَ الْآيَاتِ الَّتِي ذُكِرَ فِيهَا مَلَكُوتِ السَّمَوَاتِ  
وَالْأَرْضِ وَمَا بَثَّ فِي الْعَالَمِ الْعُلُويِّ وَالسُّفْلِيِّ مِنَ الْمَخْلُوقَاتِ. 4

“Allah’s Book contains everything. There is no basic section or problem of any science for which there is no indication in the Qur'ān. In the Qur'ān, one finds the wondrous aspects of the creatures, the spiritual dimension of the heavens and the earth, what is in the horizon’s loftiest part and what is beneath the sod, the beginning of creation...”<sup>5</sup>

The sublime verse of *Sūrah al-Nahl* conveys the imitability of the Qur'ān:

﴿وَنَزَّلْنَا عَلَيْكَ الْكِتَابَ تِبْيَانًا لِكُلِّ شَيْءٍ﴾<sup>6</sup>

“We have sent down to thee the Book explaining all things”<sup>7</sup>

This fact has been presented by Imām Ghazālī (d.505 H) in the chapter entitled “*The Stemming of the Sciences of the Ancient and the Modern times from the Qur'ān*” of the “*Jawāhir al- Qur'ān*” (The Jewels of the Qur'ān), as follows:

2- Al-Qur'ān, 47:24.

3- Abdullah Yūsuf Alī, *The Holy Qur'ān Text, Translation and Commentary*, (Maryland: Amana Cor, 1983), 1385.

4- Jalāl-Dīn, Al-Suyūṭī, *Al 'Itqān fī 'ulūm al- Qur'ān*, (Qairo: Al-Hayāt al- Mṣriyat al-'āmat ul-kitāb, 1974), 4: 28.

5- Ibid, 34.

6- Al-Qur'ān, 16:89.

7- Abdullah, Ibid, 680.

ولعلَّكَ تقول: إن العلوم وراءَ هذه كثيرة، كعلم الطب والنجوم، وهيئة العالم،  
وهيئة بدن الحيوان وتشريح أعضائه وعلم السَّحر والطلَّسمات وغير ذلك<sup>8</sup>

You might say that there are many sciences other than this like medicine, astrology, cosmology, anatomical dissection of animals, magic and others.

It means that the Holy Qur'ān encloses the clues and intimations for researchers to research on different sciences and ponders at nature and its various aspects. It would be better to take a prospective glance at some physical concepts presented in the Holy Qur'ān.

The purpose of the research paper is to highlight some classical and modern physical concepts of the Holy Qur'ān. Today in the age of modern science it is necessary to research on the Holy Qur'ān in the perspective of scientific facts to prove its worth on those who consider it outdated. Because in this present age of science everything judge in the perspective of science. The paper would reflect the imitability of the Holy Qur'ān in such a way that it is not only a hallmark for Muslims as well as non-Muslims.

Verses from different chapters of the Holy Qur'ān and available scientific facts would be brought together to explore the scientific significance of the Qur'ānic verses.

### Literature Review

The scientific phenomena mentioned in the Holy Qur'ān have been conferred by a number of researchers in the past like Imām al-Ghazālī in *"Ihyā 'Ulūm al-Dīn"* and al-Suyūṭī in *"al-Itqān fī 'Ulūm al-Qur'ān"*. Dr. 'Allāma Muhammad Iqbal, a legend of the twentieth century, in his worthwhile work *"The Reconstruction of Religious Thought in Islam"* has provided motivation to study classical Physics in the light of Holy Qur'ān. A research paper entitled *"Basic concepts of Physics in the perspective of Qur'ān"* by M.M. Qureshi reflects the

8- Abū Hāmid, Muhammad Al-Ghazālī, *Jawāhir al-Qur'ān* (Bayrūt: Dār Ihyā al-Ulūm, 1986), 45.

basic themes of Physics in the light of Qur'ānic verses. "Verses from the Holy Koran and Facts of Science" by Dr.Haluk Nur Baki and "The Universe seen through the Qur'ān" by Mir Anees-u-Din are also worth reading in this regard.

## 1. Aerodynamics

The branch of Physics is defined as:

"The branch of mechanics that deals with the motion of air and other gases and with the effects of such motion on bodies in the medium".<sup>9</sup>

The behavior of solid bodies in a fluid environment (air) is studied in aerodynamics, as an example, one topic studied under Aerodynamics is like the movements of the Aero planes in the atmosphere.

It is a well-known fact that all the bodies left in the air will ultimately fall to the earth, either fast or slow because of gravity. Is it not a strange thing? Two famous scientists of the seventeenth century discovered the force of gravity. Galileo Galilei has been remembered for a demonstration in which he dropped balls from the leaning tower of Pisa in Italy, and Isaac Newton is associated with the story about an apple falling on his head. Galileo found that all objects fall at the same rate (provided that there is not much air resistance). *Newton* claims that this is the force of gravity. The size of the object does not matter because gravity exerts the same force on all objects.<sup>10</sup>

It can also be defined as: "every object in the universe exerts a force on every other object known as gravity".<sup>11</sup>

9- Stein, J., *The Random House Dictionary of English Language*, (New York, Random House Inc., 1973), 23.

10- Freeman John, *Mechanics*, (London: Macdonald and Co, 1983), 6.

11- Rutherford D.E., *Classical Mechanics*, (Edinburgh: Oliver and Boyd, 1951), 25.

Birds fly in the air even in the presence of gravity. Undoubtedly the flight of the bird in the air shows the Magnificence and the Majesty of Allah Almighty. As it has mentioned in *Sūrah al-Nahl*:

﴿الْمَيْدَ وَالْوَالِي الطَّيْرَ مُسَخَّرَاتٍ فِي جَوِّ السَّمَاءِ مَا يُمْسِكُهُنَّ إِلَّا اللَّهُ إِنَّ فِي ذَلِكَ لَآيَاتٍ لِّقَوْمٍ يُؤْمِنُونَ﴾<sup>12</sup>

“Do they not look at the birds, held poised in the midst of [the air and] the sky? Nothing holds them up but [the power of] Allah. Verily in this are signs for those who believe”.<sup>13</sup>

The Arabic word *Yumsikuhunna* is translated as held poised, some translators have translated it as “holds” meaning not letting them go, taking them, catching them, or holding them. The word is a verb derived from the root-word “*Imsāk*” meaning to catch with the hand, hold, and pull back. Allah the Almighty reveals that He holds birds in the air and they fly by His command. Bird flight is still the subject of wide-ranging research by scientists. Having observed the perfection in bird flight, scientists used the avian body and avian flight as direct models in producing such vehicles as airplanes and jets.<sup>14</sup>

The expressions related to aerodynamics in the Holy Qur’ān at the time when there is no concept of science, aerodynamics, and the avian body discloses the dignity of the Qur’ān.

## 2. Energy and Radiations

The capacity of the body for doing work is called energy. “The term radiation is used in two senses: it is the process by which energy is propagated in space in the form of rays and the rays so propagated is called radiations”.<sup>15</sup> Light rays, heat rays, gamma rays are some examples of radiations.

12- Al-Qur’ān, 16:79.

13- Translation by Abdullah Yūsuf Alī. 677.

14- Rabia, Munir, (April 22), Miracles of the Birds, Retrieved on July 9, 2015, <https://quranreflections.wordpress.com/2013/04/22/miracle-of-birds/>

15- Sayed, A. W. S., *Phenomena of Nature and Qur’ān*, (Lahore: Sayed Khalid Wadūd, (1971), 37.

## 2.1. Radiant Energy

Electromagnetic radiations are promulgated in the form of waves. These waves are of the same type of waves that are produced on the surface of the water when disturbed by stone or wind. The difference in wavelength<sup>16</sup> and frequency<sup>17</sup> produces different forms of radiant energy.

Anīs-ud-Dīn Mīr, who was an eminent research scientist of Indian Institute of Chemical Technology quotes in his book "The Universe seen through the Qur'ān:

"There are different forms of radiant energies is evident from the electromagnetic spectrum. The range of wave lengths and frequencies is very large and our eye can perceive only a very small portion of it. i. e. wave length of  $10^{-6}$  to  $10^{-6.5}$  and frequency of  $10^{11.5}$  to  $10^{12}$  kilocycles/second<sup>18</sup> and it cannot be see a major portion of electromagnetic spectrum. This shows the limit of our physical senses and verifies the existence of things that cannot be observed by our senses but still they exist."<sup>19</sup>

## 2.2. Radiations

The energy that comes from a source and travels through space and may be able to penetrate various materials is called radiation. The Qur'ān and other revealed books like *Torāh* and *Injīl* were revealed on different prophets in different times. The *Torāh* was revealed on the Prophet Mūsā (upon whom be greeting) and the *Injīl* was revealed on the Prophet 'Īsā (upon whom be greeting). Here in the verse of *Sūrah Al-Shūrā* Allah Almighty has discussed the Qur'ān as light (*Nūr*):

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16- Distance from crest to crest.

17- No of waves produce in one second.

18- One kilo cycles is 1000 waves per second.

19- Mir Anees-u-Din. *The Universe seen through the Qur'ān* (Canada: Al-Attique Publishers, 2001), 63.

﴿ مَا كُنْتَ تَدْرِي مَا الْكِتَابُ وَلَا الْإِيمَانُ وَلَكِنْ جَعَلْنَاهُ نُورًا نَهْدِي بِهِ مَنْ نَشَاءُ  
مِنْ عِبَادِنَا وَإِنَّكَ لَتَهْدِي إِلَى صِرَاطٍ مُسْتَقِيمٍ ﴾<sup>20</sup>

“Thou knewest not [before] what was Revelation, and what was Faith; but We have made the [Qur'an] a Light, wherewith We guide such of Our servants as We will”.

The above mentioned Holy Books are said to possess “the light” i.e. radiance: This is an ordinary man, may mean light which helps in searching a right path, but to a student of science word *Nūr* would deliver the meaning of radiant energy. Sound waves that are produced at the time of recitation of the Qur'ān transfer a certain type of electromagnetic radiation which has special effects on the heart of the listener and develops such type of feeling which cannot be described in suitable words, a feeling which makes people weep even those who do not understand its meaning.<sup>21</sup>

It has been well known fact of modern science that the specific type of electromagnetic radiations can be used to cure diseases. The Qur'ān produces such types of radiations that cure the physical as well as spiritual diseases.

A research conducted by the Department of Radiation Oncology at the University of Medical Sciences, Tehran on cancer patients while they were having treatment of chemotherapy. The basic aim of the research was to evaluate the effect of hearing the Qur'ānic verses. Nausea and vomiting are two common and disturbing adverse effects of chemotherapy. 35% of the patients experienced vomiting during chemotherapy, which decreased to 22% after listening to the Qur'ān. Also, there was a 64% decline in the incidence of vomiting. The Qur'ān significantly decreased the probability of higher grade of nausea in 89% of cases. About 35.5% of the patients did not have nausea, which increased to 67.7 % after the intervention. Also, half of the cases experienced lower grade of

20- Al-Qur'ān, 42:52.

21- Mir Anees-u-Din *The Universe seen through the Qur'ān*, 71.



nausea in the next cycle after listening to the Qur'ān grade of nausea did not increase to higher grade after the intervention. <sup>22</sup>

Another research has been conducted on two hundred and thirty eight cancer patients' explored the positive effects of listening to the Qur'ān reducing cancer patient anxiety before chemotherapy.<sup>23</sup>

### 3. Thermodynamics

It is a compound word derived from thermos and dynamics. The science concerned with the relation between heat and mechanical energy or work, and the conversion of one into the other: modern thermodynamics deals with the properties of the systems for the description of which temperature is a necessary coordinate.<sup>24</sup>

#### 3.1. Heat

It deals with the nature of heat, modes of transfer, and effects of heat. The Qur'ān explains heat and its sources in different perspectives to show the power and majesty of Allah Almighty. That shows the original source and power are only governed by Allah, the Almighty. In *Sūrah Al-Wāq'ih* Allah Almighty describes the heat can achieve from fire:

﴿أَفَرَأَيْتُمُ النَّارَ الَّتِي تُورُونَ ﴿٤١﴾ ءَأَنْتُمْ أَنْشَأْتُمْ شَجَرَتَهَا أَمْ نَحْنُ الْمُنشِئُونَ ﴿٤٢﴾ نَحْنُ جَعَلْنَاهَا تَذْكَرًا وَرَمَتْنَاهَا لِلْمُقْوِينَ ﴿٤٣﴾﴾<sup>25</sup>

"See ye the Fire which ye kindle? Is it ye who grow the tree which feeds the fire, or do We grow it?"

- 22- Shaghayegh Kamian and Morteza Tabatabaeefar, The Effect of Hearing Quranic Verses on Reducing Chemotherapy-Induced Nausea and Vomiting in Cancer Patients referring to Imam Hossein Hospital" **Journal of Research in Religion and Health**, Tehran, 5:3 (2019), 45.
- 23- Al-Jubouri et al., "Recitation of Quran and Music to Reduce Chemotherapy-Induced Anxiety among Adult Patients with Cancer: A Clinical Trial", *Nursing open*, 8(4) (2021), 1606, accessed January 2, 2022, <https://doi.org/10.1002/nop2.781>
- 24- Webster's Unabridged Dictionary of the English Language, (New York: Portland House, 1989), 1473.
- 25- Al-Qur'ān, 56:71-73.

The relationship of Fire to Trees is inseparable. Most of the fires, we burn, are caught from trees. The fuel is originated from the wood of trees. Mineral coal is the wood of primitive forests petrified below the earth through geological ages. The fire produced from green trees is also stated in the verses of *Sūrah Yā-sīn*(36:80) and in *Sūrah al-Mu'min* (40:26).

### 3.2. Laws of Thermodynamics

1. The principle of conservation of energy for a sample of material exchanging energy with its surrounding by means of work and heat is expressed in the 1<sup>st</sup> law of Thermodynamics.<sup>26</sup>
2. In thermodynamics, it means the rising condition of everything is bound by entropy.
  - a. It is not possible to change heat completely into work, with no other change taking place.
  - b. It is not possible for heat to be transferred from one body to another body that is at a higher temperature with no other changing take place.<sup>27</sup>
3. Experiment shows that the fundamental feature of all cooling process is that, the lower the temperature attained, the more difficult it is to cool further.

*The entropy change of a condensed system during a reversible isothermal process behaves as the temperature approaches zero. This is known as Nernst-Simon statement of the third law.*

“The entropy change associated with any isothermal reversible process of a condensed system approaches zero as the temperature approaches zero”.<sup>28</sup>

#### a) The Holy Qur'ān and Second Law of Thermodynamics

26- David Halliday et al., *Fundamentals of Physics*, (Islamabad: National Book Foundation, 1994), 567.

27- Ibid, 611.

28- Bimalendu N. Roy, *Fundamentals of Classical and Statistical Thermodynamics* (England: John Wiley & Sons Ltd, 2002), 208.

Engineer Sultan Bashīr Maḥmūd (b.1940AD)<sup>29</sup>, a nuclear scientist, has explained this phenomenon as:

“According to this principle, nothing can survive forever, even the highly stable particles like protons must decay with time, and ultimately perish, and they do”.

In *sūrah Al-Rahmān*:

﴿كُلُّ مَنْ عَلَيْهَا فَانٍ وَيَبْقَىٰ وَجْهَ رَبِّكَ ذُو الْجَلَالِ وَالْإِكْرَامِ﴾<sup>30</sup>

“All that is on earth will perish: But will abide [for ever] the Face of thy Lord, - full of Majesty, Bounty and Honour”.<sup>31</sup>

It can be said that the Holy Qur’ān mentions all the existing things will not exist forever.

It is the fascinating reference that shows the obliteration of everything in the universe at its end. This is the universal norm. In the case of cosmology the Holy Qur’ān discloses the fact that the sun and all the stars will perish when their time thrash out. The verses of *Sūrah Al-Takwīr* verify this fact:

﴿إِذَا الشَّمْسُ كُوِّرَتْ وَإِذَا النُّجُومُ انْكَدَرَتْ﴾<sup>32</sup>

“When the sun [with its spacious light] is folded up; when the stars fall, losing their lustre.”<sup>33</sup>

Sun has reached its middle age according to modern science. Nearly 5-6 billion years the sun will consume all its fuel and become a black dwarf. The mishaps of nature can haste the process of perishing. Paul Davies says in his book ‘God and New Physics’: about the death of the universe:

“If the universe has a finite stock of order, and is changing irreversibly towards disorder-ultimately to thermodynamic equilibrium-two very deep inferences follow immediately. The first is that the universe will eventually die, wallowing, as the ‘heat death’ of the universe. The second is that the universe cannot

29- Sultan Bashir Maḥmūd, S. B., *The Miraculous Qur’ān and Challenge to Science and Mathematics*, (Islamabad: Dar-ul-Hikmat International, 2010), 53.

30- Al-Qur’ān, 55:26-27.

31- Translation by Abdullah Yūsuf Alī, 1475.

32- Al-Qur’ān, 81:1-2.

33- Translation by Abdullah Yūsuf Alī, 1693.

have existed forever; otherwise it would have reached its equilibrium end state an infinite time ago. Conclusion: The universe did not always exist and likewise is not eternal either".<sup>34</sup>

A universal principle that was revealed by the Qur'ān fourteen centuries ago in *sūrah Al-Qaṣaṣ*:

﴿كُلُّ شَيْءٍ هَالِكٌ إِلَّا وَجْهَهُ﴾<sup>35</sup>

Everything [that exists] will perish.<sup>36</sup>

#### 4. Concept of Hydrometeorology

A branch of meteorology that deals with water in the atmosphere especially as precipitation.<sup>37</sup> Hydrometeorology is the branch of physics. The basic concept included in this branch is light, *al-barq* (البرق).

"Lightening is a sudden electrostatic discharge that occurs during an electrical storm. This discharge occurs between electrically charged regions of a cloud called intra cloud lightning (IC), between that cloud and another cloud (CC lightning), or between a cloud and ground (CG lightning). The charge regions in the atmosphere temporarily equalize themselves through this discharge referred to as a strike if it hits an object on a ground, and a flash if it occurs within a cloud. Lightening causes light in the form of plasma, and sound in the form of thunder. Lightening may be seen and not heard when it occurs at a distance too great for the sound to carry as far as the light from the strike and flash".<sup>38</sup>

The Lighting and formation of clouds that leads to electrification are also cited in the Qur'ān. In *sūrah Al-Baqarah*:

﴿أَوْ كَصَيْبٍ مِّنَ السَّمَاءِ فِيهِ ظُلُمَاتٌ وَرَعْدٌ وَبَرْقٌ يَجْعَلُونَ أَصَابِعَهُمْ فِي آذَانِهِمْ مِنَ الصَّوَاعِقِ حَذَرَ الْمَوْتِ وَاللَّهُ مُحِيطٌ بِالْكَافِرِينَ يَكَادُ الْبَرْقُ يَخْطَفُ أَبْصَارَهُمْ كُلَّمَا أَضَاءَ

34- Sultan Bashir, *The Miraculous Qur'ān and Challenge to Science and Mathematics*, 54-55.

35- Al-Qur'ān, 28:88.

36- Translation by Abdullah Yūsof Alī, 1027.

37- Hydrometeorology, Retrieved on June 24, 2021, <https://www.merriam-webster.com/dictionary/hydrometeorology>

38- Lightning, Retrieved on October 2, 2016, [http:// en.Wikipedia.org/](http://en.Wikipedia.org/)

لَهُمْ مَشْوَاهِهِ \* وَإِذَا أَظْلَمَ عَلَيْهِمْ قَامُوا وَلَوْ شَاءَ اللَّهُ لَذَهَبَ بِسَمْعِهِمْ وَأَبْصَارِهِمْ إِنَّ اللَّهَ عَلِيُّ كُلِّ شَيْءٍ قَدِيرٌ ﴿٣٩﴾

“Or [another similitude] is that of a rain-laden cloud from the sky: In it are zones of darkness, and thunder and lightning: They press their fingers in their ears to keep out the stunning thunder-clap, the while they are in terror of death. But Allah is ever round the rejecters of Faith! The lightning all but snatches away their sight; every time the light [Helps] them, they walk therein, and when the darkness grows on them, they stand still. And if Allah willed, He could take away their faculty of hearing and seeing; for Allah hath power over all things”.<sup>40</sup>

The sublime verse of *sūrah Al-Ra'd* threw light on this concept with these words:

﴿هُوَ الَّذِي يُرِيكُمْ الْبَرْقَ خَوْفًا وَطَمَعًا وَيُنشِئُ السَّحَابَ الثِّقَالَ﴾<sup>41</sup>

It is He Who doth show you the lightning, by way both of fear and of hope. To the fear in the force and fire of the lightning rather than to the hope of good and abundant crops in the rain which will come behind the lightning clouds?

In *Sūrah Al-Nūr*:

﴿الَمْ تَرَ أَنَّ اللَّهَ يَرْجِي سَحَابًا ثُمَّ يُؤَلِّفُ بَيْنَهُ ثُمَّ يَجْعَلُهُ رُكَامًا فَتَرَى الْوَدْقَ يَخْرُجُ مِنْ خَلِيلِهِ وَيُنزِلُ مِنَ السَّمَاءِ مِثْرًا مِنْ جِبَالٍ فِيهَا مِنْ بَرَدٍ فَيُصِيبُ بِهِ مَنْ يَشَاءُ وَيَصْرِفُهُ عَنِ مَنْ يَشَاءُ يُكَادُّ سَنَا بَرْقِهِ يَذْهَبُ بِالْأَبْصَارِ﴾<sup>42</sup>

“Seest thou not that Allah makes the clouds move gently, then joins them together, then makes them into a heap? - then wilt thou see rain issue forth from their midst. And He sends down from the sky mountain masses [of clouds] wherein is hail: He strikes there with whom He pleases and He turns it away from whom He pleases, the vivid flash of His lightning well-nigh blinds the sight”.<sup>43</sup>

39- Al-Qur'ān, 2:19-20.

40- Translation by Abdullah Yūsuf Alī, 20.

41- Al-Qur'ān, 13:12.

42- Al-Qur'ān, 24:43.

43- Translation by Abdullah Yūsuf Alī, 911.

The above mentioned verses discuss the phenomena of comrade light with heavy cloud, *al-sihāb al-thiqāl*, thunder (*al-ra'd*), and 'violent' cloud-bursts, *sayyibūn*. The latter is linked with a word root, verb *asbāb*, "which means to strike, assail, inflict, etc. the meaning of the *asbāb* and *sayyibūn* indicate a strong and forceful action"; lightning and thunder are produced by a kind of clouds. God creates those clouds. The lightning takes away the sight of the specific type of people that are produced by clouds more or less an abnormal fear of death. It depends all on God's will though normally he does not. The intensity of light makes the cause of loss of sight. It can be said that the creation of the specific type of clouds resultant light and thunder, the consequent raining with normal or dangerous floods are all because of the laws of God.

The geophysical sciences meteorology and hydrology are also presented by God. The two types of variables are discussed in these verses. These are the hydro meteorological parameters for specific functions of relation. God's signs like clouds, lightning, thunder, precipitations are the dependent variables. The lightning or precipitation as a function of particular kinds of clouds and the benefits and loses.

"Lighting we see is a giant spark of electricity between the cloud and earth. It consists of electric strokes or discharges. What is seen as a bright light is the return stroke; it travels at about the speed of light which is 186, 282etermination miles per second. These stroke may discharge about 100 million volts of electricity, each stroke may be of 15 million volts; they may heat the air in their way to over 60,000 degrees F. The air heated thus expands quickly; it produces a pressure wave called thunder. Lightning between a cloud and the atmosphere scatters electric energy in the air".<sup>44</sup>

The adaption to light and dark occurs in the pupil and, more important the retina. The pupil may become small like a pin-head to prevent the eye from being damaged or dazzled by too much light. Light rays are absorbed by pigments in the retina's rods and cones (the light-sensitive cells). Light changes the chemical structure of

44- R. S. Robinson, "The Lightning" in *Encyclopedia of Islamic Science and Scientists*, Edited by M. Zaki Kirmani & N. K Singh (New Delhi: Global Vision Publishing, 2005), 2: 591.

vitamin A moves into a part of the retina to regain its original chemical structure and then returns to rods and cones. The renewal of rhodopsin (the pigment that enables the eye to see in dim light) occurs mostly in the dark. The eye cannot see in dim light. Depending on how much it was bleached, it takes 10 to 30 minutes for rhodopsin to be renewed. Thus, lightning does plunge into the darkness or a kind of temporary blindness.<sup>45</sup>

The above mentioned verses are directly associated with fire, death and harm to the eyes due to lightning.

#### 4. Quantum Mechanics

Quantum mechanics reconciles the macroscopic laws of physics with the atomic nature of matter and handles the wave particle duality of atoms and molecules. It is based on the principle that matter and energy have the properties of both particles and waves (some time they behave as particles and some time they behave like waves).<sup>46</sup>

In 1930 there were some new discoveries about subatomic particles. Quantum mechanics came into existence after the discovery of electrons travel from one orbit to other in jumps and in fixed quanta. Motion is continuous, like that of waves on the mysterious media called ether, it was the concept of the past. Quantum mechanics over ruled this concept of either the particle's continuous movement and as a replacement for this idea, it can be said that "events do occur in quantum, jumps of discrete measure"<sup>47</sup>like the light. Light is composed of particles called photons which hop off in space while traveling.

Engineer Sultan Bashīr Maḥmūd<sup>48</sup> says in this context:

"One is surprised that, the 'rules of creation' given in the Holy Qur'ān also point out to the discrete, quantum characteristic of things. It speaks of the creative mode of Allah Subḥana -hu

45- Ibid, 591-592.

46- Retrieved on Oct 15, 2016, [www. the free dictionary. com/quantum theory](http://www.the-free-dictionary.com/quantum-theory).

47- Sultan Bashir Maḥmūd, *The Miraculous Qur'ān and Challenge to Science and Mathematics*, 60.

48- Ibid.

according to the principle of 'Kun fayakūn' ﴿كُنْ فَيَكُونُ﴾ ie 'Be', and it is there.

This phenomenon has been expressed in the following verse of *Sūrah Yāsīn*:

49 ﴿إِنَّمَا أَمْرُهُ إِذَا أَرَادَ شَيْئًا أَنْ يَقُولَ لَهُ كُنْ فَيَكُونُ﴾

"Verily, when He intends a thing, His Command is, 'be, and it is".<sup>50</sup>

The above mention verse of the Holy Qur'ān interprets the fact that "creative strokes will always take place in pre-programmed discrete measure. However, the Holy Qur'ān also supports the slow evolutionary development process.

#### 4.1. Atom can be Divided

The famous scientists and logicians *Ibn Rushd* (Averroes) (d.520H) and *Al-Ghazzālī* must have found enthusiasm from the Qur'ān about the atom and atomic concepts of the world.

Initially the 'theory of atomism' was originated by the Greeks. Nearly 23 centuries ago Democritus particularly contributed to it. The Democritus and the people came after him supposed that the smallest unit of matter was the atom. The ancient Arabs had also the same concept and believe the same. The Arabic word "Zarrah" most commonly means an atom. An atom can split; this fact is discovered by modern science. This concept was not familiar to Arabs. But the Qur'ān shed light on this concept before 1437 years ago.

According to T. J. Mc Grew:

He says about Muslim scientists "they explained the 'philosophy of nature' based upon the atomistic view point. And Muslim theologians "conceived of atomism in order to assert the divine will in the matrix of the world".<sup>51</sup>

The Holy Qur'ān interprets this phenomenon in *sūrah Sabā* as:

49- Al-Qur'ān, 36:82.

50- Translation by Abdullah Yūsuf Alī, 1188.

51- M. Zaki Kirmani & N. K. Singh. *Encyclopedia of Islamic Science and Scientists* (New Delhi: Global Vision Publishing House, 2005), 3: 837.



﴿عَلِيمُ الْغَيْبِ لَا يَعْزُبُ عَنْهُ مِثْقَالُ ذَرَّةٍ فِي السَّمَوَاتِ وَلَا فِي الْأَرْضِ وَلَا أَصْغَرَ مِنْ ذَلِكَ  
وَلَا أَكْبَرَ إِلَّا فِي كِتَابٍ مُبِينٍ﴾<sup>52</sup>

“By Him Who knows the unseen, from Whom is not hidden the least little atom in the heavens or on earth: Nor is there anything less than that, or greater, but is in the Record Perspicuous”.<sup>53</sup>

In *sūrah Yūnus*:

﴿وَمَا يَعْزُبُ عَنْ رَبِّكَ مِنْ مِثْقَالِ ذَرَّةٍ فِي الْأَرْضِ وَلَا فِي السَّمَاءِ وَلَا أَصْغَرَ مِنْ ذَلِكَ وَلَا  
أَكْبَرَ إِلَّا فِي كِتَابٍ مُبِينٍ﴾<sup>54</sup>

“Nor is hidden from thy Lord [so much as] the weight of an atom on the earth or in heaven. And not the least and not the greatest of these things but are recorded in a clear record”.<sup>55</sup>

Dr. Zakir Naik has commented in his work ‘The Qur’ān and Modern Science’ as:

“The verse also refers to the omniscience of God, his knowledge of all things, hidden or apparent. It goes further and says that God is aware of everything, including what is smaller or bigger than the atom. Thus the verse clearly shows that it is possible for something smaller than the atom to exist, a fact discovered only recently by modern science”.<sup>56</sup>

The Qur’ān in these verses obviously induces mankind interest to the tiniest part of matter, less than an atomic particle. So the Muslim scientists work in this field and provide a lot of material on the concept of atomism.

## Conclusion

The research paper presents particular account of some concepts of different branches of Physics like Aerodynamics, Thermodynamics, Energy, Radiations, Hydrometeorology, and quantum mechanics in the perspective of Qur’ānic verses. The Holy

52- Al-Qur’ān, 34:3.

53- Translation by Abdullah Yūsuf Alī, 1134.

54- Al-Qur’ān, 10:61.

55- Translation by Abdullah Yūsuf Alī, 500.

56- Zakir Naik, *The Qur’ān and Modern Science* (Lahore: Bacon Books Urdu Bazar, 2013), 19-20.

Qur'ān contains energy to produce radiations that helps mankind to cure spiritual and physical diseases as well. The research in this context has been revealed the positive effects of these radiations that help to cure the side effects of chemotherapy during the treatment of cancer. Allah Almighty through the sublime verses of the Holy Qur'ān also provides clues of Hydro meteorological phenomena of comrade light and formation of clouds. The negative effects of lightening on human eyesight have been discussed in the context of *Sūrah Al-Nūr* with references to variables. The major benefits of heat and the second law of thermodynamics has been explored in the context of different verses of *Sūrah Al-Qaṣaṣ* and *Sūrah Al-Rahmān*. No doubt the verses of the Holy Qur'ān appeal in an exclusive manner to research the physical phenomena of nature and the Qur'ān. Further research should be made in this regard to open the door to new horizons.

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