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Research Article

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Modified Big Bang Theory of Cosmology: Observational Validation and Implications for an Expanding Universe

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ABSTRACT: The standard cosmological model, grounded in the Big Bang theory and general relativity, does not resolve the Hubble tension or cosmological constant issues. This model also aligns with Newton's gravitational theory while adhering to the cosmological principle. The modified big bang theory of cosmology was validated by the observational evidences. This model was verified by applying the model to resolve the Hubble tension problem. In this article, cosmological constant problem is solved first by applying the modified big bang theory of cosmology and then the model is verified once again by the observational evidences. Acceleration of the universe's expansion is confirmed from the observed location of different galaxies.

KEYWORDS: Galaxies, Modified Big Bang Theory, Newton's Theory, Cosmology, Hubble Tension, Cosmological Constant, Dark Energy.

INTRODUCTION

The standard model of Cosmology fails to solve the Hubble tension problem and cosmological constant problem. Big bang theory of cosmology is based on general theory of relativity. The same model is also developed by the Newton's gravitational theory by satisfying the cosmological principle. In these models, universe does not has a centre. In the general theory of relativity, space and the field are assumed to be one and the same. But the electromagnetic field theory and the quantum mechanics are in the Euclidean space. So, the theory of the early universe is in the Euclidean space in which the space and field are independent. General theory of relativity based cosmological models produces singularity at the beginning of the universe.

Singularities in physical problems originates due to unrealistic assumptions. Field is associated with the energy. If the space and the field are assumed to be one and the same, singularity is produced. But if the space and the field are assumed to be independent, singularity can be eliminated. So, the author has developed the big bang theory of cosmology in the Euclidean space by applying Newton's gravitational field theory. This modified big bang theory of cosmology satisfies the cosmological principle, Hubble 's law and the cosmic microwave background radiation. The modified big bang theory of cosmology resolves the Hubble tension problem and also the cosmological constant problem. The modified big bang theory of cosmology was validated by the observational evidences. The modified theory of cosmology has a centre. The existence of the centre is verified by the observational evidences and consequently, the theory is validated. By resolving the Hubble tension problem, validity of the model is confirmed.

The universe known to us consists of energy, matter, electric and magnetic charges. From the laws of gravitational, electric and magnetic fields (Newton, Coulomb and Biot Savart's laws), charge can be defined as field of very high density [1-5]. Energy is stored in the fields. So, charges are particles with very high energy density. As per the energy and matter relationship of Albert Einstein, all matter of the universe could be equated to energy [1-5]. So, the universe must have originated from the energy. Particle physics also confirms that the universe originated from the energy. This energy must have originated from the absolute space or vacuum at a point which is the center of the universe. These are the basic principles of modified big bang theory of cosmology [6-10].

Different measurements of the Hubble constant, the rate of space-time expansion, refuse to agree – called as Hubble tension [11-14]. The same observation also implies that cosmological constant is not a constant [17-20]. The modified big bang theory is verified by the observational evidences [5]. Hubble tension problem was solved based on this model of big bang theory [15--16]. In the modified big bang model, the universe is assumed to be a spherical volume with a center. Dark energy and dark matter are assumed to be below the spherical layer which contains the earth. Field and the space are assumed to be different [3-5].

Dark energy is a mysterious force causing the accelerated expansion of the universe. Cosmological constant is energy density of the space. Cosmological constant is related to gravitational attractive force. So, it is related to decelerating force. So, cosmological constant is interpreted as a special type of dark energy. Recent observations [11-14] confirms the Hubble tension problem. Dark energy is believed to be weakening or evolving. All these problems are beautifully solved by the modified big bang theory of cosmology [15-16]. In this article, cosmological constant problem is solved and the modified big bang theory is verified by the observational data.

COSMOLOGICAL CONSTANT PROBLEM

Albert Einstein introduced the cosmological constant in his static model of the universe [5]. This constant represents the energy of the empty space or vacuum energy. As per the general theory of relativity, the universe must be dynamic meaning that universe must be either expanding or contracting. So, to make the universe static he introduced the cosmological constant to counteract the gravitational attractive force. Later observational evidences confirmed that the universe is expanding. So, the cosmological constant is found to be associated with the acceleration of the universe. Modern cosmology interprets the cosmological constant as a form of dark energy. The cosmological constant is linked to the vacuum energy or empty space energy which is predicted to be extremely large as per the quantum field theory. But observed value of the cosmological constant is much smaller than the theoretical prediction. This discrepancy is one of the biggest unsolved problems of the physics [21].

The reason for the cosmological constant problem is due to the unrealistic assumption made by Albert Einstein for developing the general theory of relativity. He pre-assumed that the space and the field are one and the same [3-5]. As explained in the previous paragraph, material world originated from the energy. From the energy matter and charges originated. Electromagnetic field and energy are inseparable. Electromagnetic field theory including the special theory of relativity exists in the Euclidean or absolute space. Quantum mechanics which is based on energy particles (photons) exists in the Euclidean space. The theory of early universe is based on quantum mechanics [2-5] and so, the theory of the early universe exists in the Euclidean frame of reference. So, the field and the space are independent and the oneness of the field and the space in the general theory of relativity is only an assumption.

Due to this unrealistic assumption a singularity is created in the cosmology based on the general theory of relativity. So, a cosmological model must be developed in the Euclidean space. So, the modified big bang theory mentioned in the previous paragraph is a realistic model and as per this model, all observations made from the earth are limited to the single spherical layer of the spherical volume of the universe. That is why the observed cosmological constant value is much smaller than the theoretically calculated value. This explanation is another evidence for the modified big bang theory of cosmology.

As explained in the previous articles [15-16], the field of the expansion of the universe is E = K0 - K/t, where K ~ $(0.16MG)^{1/2}$ and K0 is constant field of expansion due to the big bang. This constant is the actual cosmological constant because this is a relative constant as compared with the decelerating gravitational field K/t. Albert Einstein introduced the cosmological constant against the gravitational field for building a static model of the universe.

OBSERVATIONAL EVIDENCES FOR THE MODIFIED BIG BANG THEORY OF COSMOLOGY

Observational evidences for the modified big bang theory of cosmology: The modified big bang theory of Cosmological model was verified by locating the centre of the universe based on observational evidences [10]. In this article, the expansion of the universe from its centre is proved based on the observational locations of the distant galaxies and the galaxies close to the earth [22-23]. Universe in the beginning was a very compact sphere around the centre of the universe. So, the angular Deviation of galaxies with the distance should be almost zero. In the following Table -1, angular deviation of galaxies 2-8 from the centre of the universe (centre's location is RA-3.5 H and Dec.-29 Degree. This is found by taking the average location of galaxies 2-8 in the Table -1). The galaxies 2-8 are located in the distance range of 13.5 to 13.4 billion light years. For the galaxies 9-13, which are located in the distance range of 13.5 to 13.2 bly, the angular deviation of the galaxies very much considerable and the average deviation is RA-11.2 H and Dec.-77.7 Degree.

Due to the compact nature of the early universe, angular deviation of the galaxies are directly proportional to the distances of the galaxies from the centre of the universe. This is the observational evidence for the expansion of the universe. The galaxies close to the earth are most distant galaxies from the centre of the universe. So, these galaxies will be on the spherical layer with largest radius from the centre of the universe. So, the galaxies on the largest spherical layer can freely move on the spherical surface. The gravitational force on the spherical surface will be opposed by the expansion force on the spherical surface. So, grouping of galaxies due to gravitational force of attraction and dispersion of galaxy group are two extreme possibilities with the change of distance of galaxies from the earth. The galaxies will be floating on the spherical gravitational field surface and will have rotational and translational movements.

So, when two or more galaxies come close to each other due to the gravitational attractive field, they will be repelled back by the rotational forces of individual galaxies. Direction and the speed of the rotation of the galaxies are different to different galaxies. So, grouping of galaxies and dispersion of galaxies will alternate with the variation of distance from the earth. This means angular deviations of galaxies with distance from the earth observed from the earth will alternate between maxima and minima. This theory can be verified from the Tables 2, Table 3 and Table 4.

From the Table 1, the RA deviation is approximately 175 hours per billion light years for the most distant galaxies from the earth. But from the Table-2, the RA deviation of the galaxies close to the earth is approximately 375 hours per billion light years. This shows that the RA deviation for the galaxies close to the earth is approximately 11.43 times faster than the RA deviation for the most distant galaxies. This fact confirms that the universe is accelerating.

Table 1: Most distant galaxies [22].

Sl. No.	Galaxy	Distance in B.lyr.	R. A. H	Dec D	Deviation of RA in H	Deviation of Dec in D
1	MoM 214	13.53	10	2	6.5	31
2	Jades-GS-z14-0	13.428	3.5	-28	0	1
3	Jades-GS-z13-0	13.4	3.5	-28	0	1
4	Uncover -z13	13.44	3.6	-30	.1	-1
5	Jades-GS-z13-1	13.47	3.5	-28	0	1
6	Uncover -z12	13.4	3.6	-30	.1	-1
7	Glass-z12	13.4	0	-30	-3.5	-1
8	UDFj-39546284		3.5	-28	0	1
9	Maisie's gal.	13.4	21	53	17.5	82
10	CEERS2-588	13.45	14	53	10.5	82
11	GN-z11	13.4	12.5	62	9	91
12	MACS1149-JD1	13.3	12	22.5	8.5	51.5
13	EGSY8P7	13.2	14	53	10.5	82
14	A2744_YDP	13.2	0	-30	-3.5	-1
15	MACS0416Y1		4	-24	.5	5
16	GRB090423	13.2	10	18	6.5	47
17	EGS-ZS8-1	13.1	14	53	10.5	82
18	Z8-GND-5296	13.1	12.5	62	9	91
19	A1689-zD1	13	13	-1	9.5	28
20	GN-108036	12.9	12.5	62	9	91
21	SXDF-NB1006-2	12.9	2	-5	-1.5	24
22	BDF-3299	12.9	22.5	-35	19	-6
23	ULASJ1120+0641	12.9	11	7	7.5	36
24	A1703zD6	12.9	13	52	9.5	81
25	BDF521	12.9	22.5	-35	19	-6
26	IOK-1	12.88	13	27.5	9.5	56.5
27	LAEJO	13	10	2	6.5	31

Table 2: List of Nearest Galaxies [23].

Sl. No.	Galaxy	Distance from Earth		Right Ascension	Declination	Angular Deviation of RA	Angular Deviation of Dec.
		Millions of light-years	Mpc	H M S	D M S	Hours	Degree
0	Milky Way	0.0265	0.008	17 45 40	-29 00 28	14.5	0
1	Ursa MajorIII	0.033	0.010	11 38 48.9	31 04 42	8	60

2	DracoII	0.0701	0.0215	15 52 47.6	64 33 55	12.5	93.5
3	TucanaIII	0.0747	0.0229	22 41 49	-64 25 12	19.5	-35
4	Segue1	0.075	0.023	10 7 4	16 4 55	6.5	45
5	UrsaMajorII	0.098	0.030	8 51 30	63 7 48	5.5	92
6	TriangulumII	0.098	0.030	2 13 17.4	36 10 42.4	-1.5	65
7	ReticulumII	0.102	0.0314	3 35 42	--54 2 57	0	-25
8	Segue2	0.114	0.035	2 19 16	20 10 31	-1.5	50
9	Willman1	0.124	0.038	10 49 22	51 3 4	7.5	80
0-9	**Galxies 0 to 9**	**Avg.**		**Avg.**	**Avg.**		
		0.079		11.8	13.5	8.3	42.5
10	BoötesII	0.137	0.042	13 58 09	12 51 00	10.5	42
11	Coma Berenices	0.137	0.042	12 26 59	23 55 09	9	53
12	BoötesIII	0.150	0.046	13 57 00	26 48 00	10.5	56
13	Ursa Minor	0.205	0.063	15 9 8.5	67 13 21	11.5	96
14	Pisces Overdensity	0.26	0.08	23 19 00	00 00 00	19.5	29
15	Sextant	0.280	0.086	10 13 2	-1 36 53	6.5	27.5
16	Sculpture	0.287	0.088	1 0 9	-33 42 33	-2.5	-4
17	VirgoI	0.297	0.091	12 0 9.6	00 40 48	8.5	29
18	Ursa Major I	0.3157	0.0968	10 34 51.8	51 55 12	7	81
19	CraterII	0.383	0.1175	11 49 14.4	-18 24 46.8	8.5	10.5
10-19	**Gal. 10-19**	**0.3**		**12.5**	**13**	**9**	**42**
20	GrusI	0.391	0.120				
21	Antlia2	0.430	0.1318	9 35 32.8	-36 46 2.3	6	-8
22	Hercules	0.434	0.133	16 31 2	12 47 30	13	42
23	Fornax	0.466	0.143	2 39 59	-34 26 57	-1	-5.5
24	Canes Venatici II	0.49	0.15	12 57 10	34 19 15	9.5	63
25	Leo a	0.502	0.154	11 32 57	0 32 0	8	29.5
26	Leo V	0.571	0.175	11 31 9. 6	2 31 12	8	31.5
27	PiscesII	0.597	0.183	22 58 31	5 57 09	19.5	35
28	Leo II	0.701	0.215	11 13 29	22 9 17	7.5	51
29	CanesVenatici I	0.711	0.218	13 28 3.5	33 33 21	10	62.5
20-29	**Gal. 20-29**	**.53**		**12.4**	**4**	**9**	**33**
30	Leo I	0.820	0.251	10 8 27	12 18 27	6.5	41
31	EridanusII	1.19	0.366	3 44 20	-43 32 1.7	.5	-12.5
32	Leo T	1.35	0.413	9 34 53	17 3 5	6	46
33	Phoenix	1.44	0.44	1 51 6	-44 26 41	-1.5	-15.5
34	Barnard's	1.859	0.570	19 44 58	-14 48 12	16.5	14
35	NGC185	2.05	0.63	00 38 58	48 20 14.6	-3	77
36	AndromedaII	2.22	0.68	1 16 29.8	33 25 09	-2.5	62.5
37	IC1613	2.24	0.686	1 4 47.8	2 7 4	-2.5	31
38	Leo A	2.34	0.717	9 59 26.4	30 44 47	6.5	60
39	AndromedaXI	2.41	0.74	0 3 46.3	33 48 5	-3.5	63
30-39	**Gal.30-39**	**1.78**		**5**	**7.4**	**1.5**	**36.5**
40	IC10	2.446	0.750	0 20 17	59 18 13.9	-3.5	88
41	Andromeda III	2.45	0.75	0 35 33.8	36 29 52	-3	65.5
42	Cassiopeia	2.45	0.75	23 26 31	50 41 31	20	80

43	Cetus	2.460	0.754	0 26 11	-11 2 40	-3	18
44	M32	2.489	0.763	0 42 41.8	40 51 55	-2.5	70
45	Andromeda IX	2.500	0.767	0 52 53	43 11 45	-2.5	72
46	Pisces	2.510	0.770	1 3 55	21 53 6	-2.5	51
47	Andromeda V	2.52	0.773	1 10 17	47 37 41	-2.5	76.5
48	NGC147	2.53	0.776	0 33 12	48 30 32	-3	77.5
49	Andromeda	2.538	0.778	0 42 44	41 16 9	-2.5	70
40-49	**Gal.40-49**	**2.45**		**3**	**36.9**	**-.5**	**65.9**
50	Pegasus	2.55	0.78	23 51 46.3	24 34 57	20.5	53.5
51	M110	2.67	0.82	0 40 22	41 41 7.5	-2.5	71
52	Triangulum	2.73	0.84	1 33 50	30 39 36.7	-2	59.5
53	Andromeda XXI	2.802	0.859	23 54 47.7	42 28 15	20.5	71.5
54	Tucana	2.87	0.88	22 41 49	-64 25 12	19.5	-35.5
55	AndromedaX	2.90	0.889	1 6 33.9	44 48 16	-2.5	74
56	Pegasus	2.929	0.898	23 28 36	14 44 35	20	44
57	Wolf-Lundmark-Melotte	3.043	0.933	0 1 58	-15 27 39	-3.5	13.5
58	Andromeda XIX	3.043	0.933	0 19 32	35 2 37	-3.5	64
59	Andromeda XXII	3.219	0.987	1 27 40	28 5 25	-2	57
50-59	**Galaxy.50-59**	**2.87**		**10**	**18.5**	**6.5**	**47.5**
60	Aquarius	3.22	0.988	20 46 52	-12 50 53	17.5	16
61	SagDIG	3.907	1.198	19 29 59	-17 40 41	16	11
62	UGC 4879	3.956	1.213	9 16 2	52 50 42	5.5	82
63	AndromedaXVIII	3.960	1.214	0 2 14.5	45 5 20	-3.5	74
64	Antlia	4.28	1.31	10 4 4	-27 19 55	6.5	2
65	Sextans A	4.31	1.32	10 11 1	--4 41 34	6.5	24
66	NGC3109	4.338	1.35	10 3 7	-26 9 35	6.5	3
67	Antlia B	4.40	1.35	9 48 56	-25 59 24	6.5	3
68	Sextans B	4.47	1.37	10 0 0	5 19 56	6.5	34
69	Leo P	5.28	1.62	10 21 45	18 5 17 da	6.5	47
60-69	**Galaxy**	**4.2**		**11**	**0.6**	**7.5**	**29.6**
70	IC5152	5.68	1.74	22 2 41.5	-51 17 47	18.5	22
71	NGC300	6.07	1.86	0 54 54	-37 41 4	-2.5	-9
72	KKR 25	6.20	1.90	16 13 48	54 22 16	12.5	83
73	NGC 55	6.52	2.00	0 14 54	-39 11 48	-3.5	-10
74	KKs3	6.91	2.12	2 24 44	-73 30 51	-1	-44.5
75	UGC9128	7.31	2.24	14 15 57	23 3 16	10.5	52
76	GR8	7.8	2.4	12 58 40	14 13 3	9.5	43
77	IC4662	7.96	2.44	17 48	-64 38	14.5	-35.5
78	UGC8508	8.35	2.69	13 30 44	54 54 36	10	84
79	Dwingeloo1	9.13	2.8	2 56 52	58 54 42	-.5	88
70-79	**Galaxies 70-79**	**7.2**		**10.4**	**-6.2**	**7**	**23**
80	UGC9240	9.13	2.80	14 24 43	44 31 32	11	73.5
81	NGC4214	9.59	2.94	12 15 39	36 19 37	8.5	65
82	UGCA133	9.65	2.96	7 34 11.5	66 52 47	4	96
83	UGCA86	9.72	2.98	3 59 50.5	67 8 37	.5	96

84	NGC1560	9.75	2.99	4 32 49	71 52 59.2	1	101
85	Dwingeloo2	9.8	3.0	2 54 8. 5	59 0 19	-.5	88
86	MB3	9.8	3.0	2 55 42	58 51 37	-.5	88
87	Maffei 1	9.8	3.0	2 316 35	59 39 19	-1	89
88	Maffei 2	9.801	3.005	2 41 55	59 36 15	-.5	89
89	Donatiello I	9.88	3.04	1 11 41	34 36 3	-2.5	63.5
80-89	**Galaxies 80-89**	**9.7**		**5.5**	**46.4**	**2**	**75.4**
90	NGC2403	9.92	3.04	7 36 51	65 36 9.7	4	94.5
91	NGC404	10.05	3.08	1 9 27	35 43 4	-2.5	65
92	KKH22	10.17	3.12	3 46 49	68 5 47	.5	97
93	NGC3741	10.21	3.13	11 36 5	45 17 2	8	74
94	NGC2366	10.40	3.19	7 28 55	69 12 57	4	98
95	NGC1569	10.40	3.19	4 30 49	64 50 53	1	94
96	Sculptor dIG	10.44	3.2	0 8 13	-34 34 42	-3.5	-5.5
97	IC342	10.70	3.28	3 46 49	68 5 47	.5	97
98	Holmberg II	11.06	3.39	8 19 5	70 43 12	4.5	100
99	NGC5102	11.09	3.40	13 21 58	-36 37 49	9.5	-7.5
90-99	**Galaxies 90-99**	**10.4**		**6.1**	**41.7**	**2.6**	**70.7**
100	ESO540-030	11.09	3.40	0 49 21	-18 4 34	-2.5	11
101	NGC247	11.1	3.4	0 47 8	-20 45 38	-2.5	8
102	ESO540-032	11.15	3.42	0 50 25	-19 54 23	-2.5	9
103	NGC5206	11.32	3.47	13 35 17	-48 16 52	10	-19
104	Sculpture	11.40	3.49	0 47 33	-25 17 17	-2.5	4
105	Messier82	11.42	3.53	9 55 53	69 40 46	6.5	99
106	NGC5253	11.51	3.53	13 39 56	-31 38 24	10	-2.5
107	NGC2976	11.61	3.56	9 47 16	67 54 59	6.5	97
108	NGC4945	11.7	3.59	13 5 27	-49 28 4	9.5	-20.5
109	NGC6789	11.74	3.6	19 16 41	63 58 23	15.5	93
100-109	**Galaxies 100-109**	**11.4**		**8.3**	**-10.5**	**4.8**	**18.5**
110	Messier81	11.74	3.6	9 55 33	69 3 55	6.5	98
111	HolbergIX	11.77	3.61	9 57 32	69 2 46	6.5	98
112	UGCA292	11.77	3.61	12 38	32 45	9	62
113	Centaurus A	12.02	3.68	13 25 28	-43 1 9	10	-14
110-113	**Galaxies 110-113**	**11.8**		**11.5**	**31.75**	**8**	**61**

Table 3: List of groups of nearest galaxies.

Sl. No.	Galaxy Number	Average Distance Ml yrs.	Average Deviation of RA	Minimum Angular Deviation	Maximum Angular Deviation
1	0-5	0.067	11.1	5.5	19.5
2	6-8	0.1	-1	-1.5	---
3	9-15	0.2	10.7	6.5	19.5
4	16	0.29	-2.5	-2.5	---
5	17-22	0.38	8.7	6	13
6	23	0.47	-1	-1	---
7	24-30	0.67	9.86	6.5	19.5
8	31-34	1.46	5.4	-1.5	16.5

9	35-41	2.3	-1.6	-3.5	6.5
10	42	2.45	20	---	20
11	43-49	2.51	-2.6	-3	---
12	50	2.55	20.5	---	20.5
13	51-52	2.7	-2.25	-2.5	---
14	53-54	2.84	20	---	20.5
15	55	2.9	-2.5	-2.5	---
16	56	2.93	20	---	20
17	57-59	3.1	-3	-3.5	---
18	60-62	3.7	13	5.5	17.5
19	63	3.96	-3.5	-3.5	---
20	64-70	4.7	8.2	6.5	18.5
21	71	6.1	-2.5	-2.5	10
22	72	6.2	12.5	---	12.5
23	73-74	6.7	-2.25	-3.5	---
24	75-78	7.86	11.1	9.5	14.5
25	79	9.13	-.5	-.5	---
26	80-84	9.57	5	.5	11
27	85-89	9.8	-1	-2.5	---
28	90-92	10.07	.67	-2.5	---
29	93	10.21	8	8	8
30	94-97	10.5	.5	-3	4
31	98-99	11.1	7	4.5	9.5
32	100-102	11.1	-2.5	8	11
33	103	11.3	10	---	10
34	104	11.4	-2.5	-2.5	---
35	105-113	11.7	9	6.5	15.5

Table 4: List of groups of nearest galaxies.

Sl. No.	Galaxy Number	Distance in Ml yrs	Average Deviation of Dec.	Minimum Angular Deviation	Maximum Angular Deviation
1	0-2	0.043	51.17	0	93.5
2	3-6	0.087	41.75	-35	92
3	7-15	0.17	45.4	-25	96
4	16-19	0.32	29.12	-4	81
5	21-22	0.43	17	-8	42
6	23-30	0.61	38.56	-5.5	63
7	31-32	1.27	16.75	-12.5	46
8	33-53	2.4	58	-15.5	88
9	54-63		40	-35.5	82
10	64-70		19.3	2	47
11	71-72	6 14	37	-9	83
12	73-76	7.14	10.1	-44.5	52
13	77-95	9.65	79.3	-35.5	101
14	96-98	10.73	63.8	-5.5	100

15	99-102	11.11	5.1	-7.5	11
16	103-105	11.38	28	-19	99
17	106-107	11.56	47.25	-2.5	97
18	108-112	11.74	66.1	-20.5	98
19	113	12.02	-14	-14	---

CONCLUSION

First cosmological constant problem was solved by applying the modified big bang theory of cosmology. Then the angular deviation of most distant galaxies and the closest galaxies from the angular location of the centre of the universe were listed in the tables 1-4. The angular deviation of most distant galaxies agrees with the theoretical predictions and verify the modified big bang theory of cosmology once again. The angular deviation of closest galaxies also agrees with the theoretical predictions and confirms the validation of modified big bang theory of cosmology once again. The minimum angular deviation and maximum angular deviation of most distant galaxies and the galaxies nearest to the earth are proved to be almost constant. This again proves the radial expansion of the universe. Due to the spherical symmetry of the gravitational field, the expansion depends only on the radius and not on the angular coordinates.

Resolving the Hubble tension problems proved that the universe has a centre and the matter and the energy under the spherical field layer which has the earth can't be observed from the earth. This major part of the matter and energy of the universe is the dark matter and energy which are responsible for the acceleration of the universe. The centre of the universe was identified from the observational data of most distant galaxies. In this article, expansion of the universe is proved by deriving angular deviation of most distant galaxies from the Observational data. The velocity and frequency of the energy at the time close to zero should have been close to infinity because suddenly very high-density energy originated from the absolute space and spread. The gravitational pull of the energy at the centre reduced the speed of expansion and pulled back. So, the universe is a cyclical Universe. This cyclical Universe had transient and steady state parts. All matters and charges were made during the transient oscillation of the universe. In short, the scientific findings of this article and previously published articles integrate the Cosmology of the holy Bible and the Cosmology of the ancient Hindus.

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