



EXPERIMENTAL VALIDATION OF A THEORY OVER THE ESTABLISHED HYPOTHESIS OR IN CASEWISE DEPENDABLE CONJECTURES FOR ℓ -COEFFICIENTS NORMS FIVE-PARAMETRIC $\partial \times \partial$ ORDER MATRIX

Deep Bhattacharjee¹, Sanjeevan Singha Roy², Ashis Kumar Behera³

^{1,2,3}AATWRI Research Directorate of Electro Gravitational Space Propulsion Laboratory

²Department of Physics, Birla Institute of Technology, Mesra

[‡]This research has been conducted under Theoretical Physics Research Division, a sub-division of Electro Gravitational Space Propulsion Laboratory, AATWRI Research Directorate of AATWRI Aerospace & Defence Pvt. Ltd.

¹<https://orcid.org/0000-0003-0466-750X>

²<https://orcid.org/0000-0002-6148-1421>

³<https://orcid.org/0000-0002-3577-3244>

Declaration of Interests – Authors of this paper holds no conflicting interests.

Article DOI: <https://doi.org/10.36713/epra11223>

DOI No: 10.36713/epra11223

ABSTRACT

This paper would provide a coefficient ℓ for a $\partial \times \partial$ matrix where it has been established over 5 – parameters $\alpha, \beta, \gamma, \sigma, \rho$ that in temporal evolution over every single parameter concerned there is a dependency from the before parameter to the after in a chainwise-order being non-trivially satisfied and extrapolated from the development of a theory to the development of the mathematics needed for that theory to the amalgamation of the theory and mathematics which in either case could be established via experiment or not in the extreme being a conjecture proven at later times throughout the supposedly time taken as a map \bar{t} .

KEYWORDS: Mathematics – Conjecture – Experiment – Repetition

INTRODUCTION

Any matrix of order $\partial \times \partial$ such that $\partial = n - 1$ for $n \equiv [0,1]$ where $0 \in t$ and $1 \in T$ for t is the initial time and T is the final time with the condition $T \neq \infty$ as any temporal evolution when leads to infinity then it's completely inaccessible to determine the fate of the evolution. Denoting ℓ as the coefficients over five way parameters $(\alpha, \beta, \gamma, \sigma, \rho)$ [For the general purpose we will drop the \wedge indices in σ] taking the form $\ell(\alpha, \beta, \gamma, \sigma, \rho)\bar{t}$ for $\ell\alpha$ being the development of the theory according to the observation of thought procedure, $\ell\beta$ being the initiation of the mathematics necessary to concrete that theory, $\ell\gamma$ being the inclusion of the mathematics into the theory to develop the associated physics in a suitable structure, $\ell\sigma$ being the validation of all that through experiment, $\ell\rho$ being the theory where the experimental validation proved to be inaccurate till date or till

the present time but can be proven in future for parameter θ^+ and there can also be a chance of failure or not at all being proven or making it happen through experiment for parameter θ^- where iff the taken parameter θ^+ justifies then the revert norm $\ell\sigma$ being satisfied throughout one can get a relation^[1-3],

$$\ell = \int_t^T (\alpha, \beta, \gamma, \sigma, \rho)\bar{t} d\bar{t} \quad \exists \bar{t} : t \rightarrow T$$

For the matrix,

$$\ell_i \epsilon_j \equiv \begin{bmatrix} \ell_1 \epsilon_1 & \dots & \ell_1 \epsilon_{n-1} \\ \vdots & \ddots & \vdots \\ \ell_i \epsilon_1 & \dots & \ell_i \epsilon_{n-1} \end{bmatrix}_{\partial \times \partial}$$

where $j \equiv n - 1 \quad \forall \epsilon_j = (\alpha, \beta, \gamma, \sigma, \rho)\bar{t}$



RELATIONS

This in turn would induce a 4 – fold relation among the concerned parameters $(\alpha, \beta, \gamma, \sigma^+, \rho)$ for time \bar{t} with coefficient $\rho^{[4-6]}$,

- [1] \sum^{\wedge} is the number of times the experiment performed till success $\exists^{\wedge} \in \mathbb{R}^+$ – As it's difficult to say with certainty “how many times the experiment would yield something fruitful or a perfect result for the validation of the theory” – any such experiment has to be conducted numerous times for paving the way to establishing the theory where the earliest validation by any experiment could come from a theory being hypothesized where it is less abstract and least less in-depth to the domain of modern theoretical physics; in the other cases like the strings or the quantum nature of reality for any dependency of scale-invariant nature – the experimental validation is not only limited but also difficult to be proven in much later times.
- [2] $\gamma = \alpha \cup \beta \forall \alpha$ happened earlier than β – In general, a theory has been developed first till mathematics would takeover it and the final physics coming from that theory is a union among the former two depending on the temporal parameters for all the philosophy being established earlier before mathematical takeovers.
- [3] $\sigma = \gamma \cap (\alpha \cup \beta)$ – Any final physics that is being developed can be taken as the intersection among that fully furnished (developed) physics with the union of theory and mathematics because there lie other domains beyond the intersection points being classified into 2 – categories,
 1. There will be some exclusion in the union – domains of $\alpha \cup \beta$ being intersected with γ where not all can be taken to produce new physics as some might prove redundant or exclusive being there in the domain of $\alpha \cup \beta$.
 2. There will be some exclusion beyond the intersection domains of $\gamma \cap (\alpha \cup \beta)$ that lies on the side of γ where the reason for this can be [Point 1.] also with another being some of the associated physics being developed taking some parts of $\alpha \cup \beta$ into account with the other parts that come from something being observed or some that come anew apart from those domains of $\alpha \cup \beta$.
- [4] $\rho = \left(\begin{smallmatrix} \theta^+ \\ \theta^- \end{smallmatrix} \right) \exists \rho\theta^+ \cong \sigma$ and $\rho\theta^- \not\cong \sigma$ – Here it has been taken over two parameters of ‘theta’ – the positive and the negative where positive would yield a validation of a theory through experiment while negative would yield a failure either to conduct an experiment or (as preferred here) – the inaccurate or inaccuracy of the experiment to establish the proper

validation. Thus, there is always a chance or a higher degree of probability that any experimental failure at present can be established through repetitions [as mentioned in Point [1]] in the future (in extreme cases – some theories might not be proved at all through experiments even through repetitions).

Cases: The mathematical form of philosophy is physics. Any theory that an individual or an observer made by observing nature – he gives his best to produce his observations in terms of a theory which is a philosophy where there lie two important aspects^[7, 8],

- [1] A observation when accompanied by (non – abstractness) then that goes on to be the established parameters of a conjecture or a hypothesis that to be proved later, centuries or years later by some other scientists to make it a proof where the non – trivial part of all of this lies in the establishment of the proof via experiment (and this is rather too rare in modern society of theoretical physics because of the extreme obscurity and abstractness of the domain of observation that is involved in digging down the deepest part of nature for accurate observation – but that observation tends to divert away from accuracy or in many cases tends to become a source of disbelief top the society where many won't agree to the inert and deep – structured rigorous mathematics involved in constructing that theory – but the percentage of the agreed – accuracy goes on to mass if that can be established by experiment (to repeat – this is very rare in modern theoretical physics but might proven experimentally in future with increment of Kardashev scales).
- [2] A observation when accompanied by simple and provable terms then that can be easily established to the mass where the experiment holds a greater degree than the associated mathematics and doesn't move towards a conjecture (this doesn't indeed mean that any conjecture when chalked own experimentally gives a proof – there can also be non - experimental mathematics and proofs associated with the establishment of the conjecture as a theorem (proven)).

Thus the associated cycle takes two foundations where in terms of an order (say, a co-chain being assumed here trivially) establishing point [1] in time \bar{t} as the map taking up 3 – relations^[9, 10],

Case (A) – Proved via experiment being less significant abstract analysis of modern theoretical physics,

$$\bar{t} : \alpha \rightarrow \beta \rightarrow \gamma \rightarrow \sigma$$

Case (B) – Proved via experiment but not at an initial stage rather at a later stage where mathematics played an important role for that mathematics to be proved via experiment (with success) in later times,

$$\bar{t} : \alpha \rightarrow \beta \rightarrow \gamma \rightarrow \rho\theta^+ \rightarrow \sigma$$



Case (C) – There exists a limitation to be proved via experiment where that limitation can be due to the abstractness and modern-day technological limitations of theoretical physics to be proven otherwise in the case concerned it's difficult to say when exactly or if at all the mathematics could be established experimentally (with success),

$$\bar{\epsilon} : \alpha \rightarrow \beta \rightarrow \gamma \rightarrow \rho\theta^- \rightarrow \gamma \\ \rightarrow \epsilon_j \exists \sim \text{signifies the limitation}$$

Thus, with these 3 – cases; everything that has been considered is justified for this paper for either the validation or the not – validation of a theory with an experiment being conducted.

RESULTS

The relations being taken for the associated parameters that have been chalked out throughout this paper where it has been shown that – for validation there lies certain things to obey and for not – validation there lies certain constraints to obey where those constraints can be recovered or removed in due time through repetitions. In the other cases or extremes of a conjecture where the abstractness of a theory is too much along with the associated mathematics – that the physics being developed even if accurate still it's difficult to get validated through experiments for the results being discussed in detail throughout this paper.

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