
PRESENTATION AND DISCUSSION

# PART 2: COMPARATIVE ANALYSIS OF THE MODEL OF COMPLETE AND INCOMPLETE COORDINATE SYSTEMS

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NATURAL PHILOSOPHY ALLIANCE (NPA) 15TH ANNUAL CONFERENCE
IN COOPERATION WITH THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE (AAAS)
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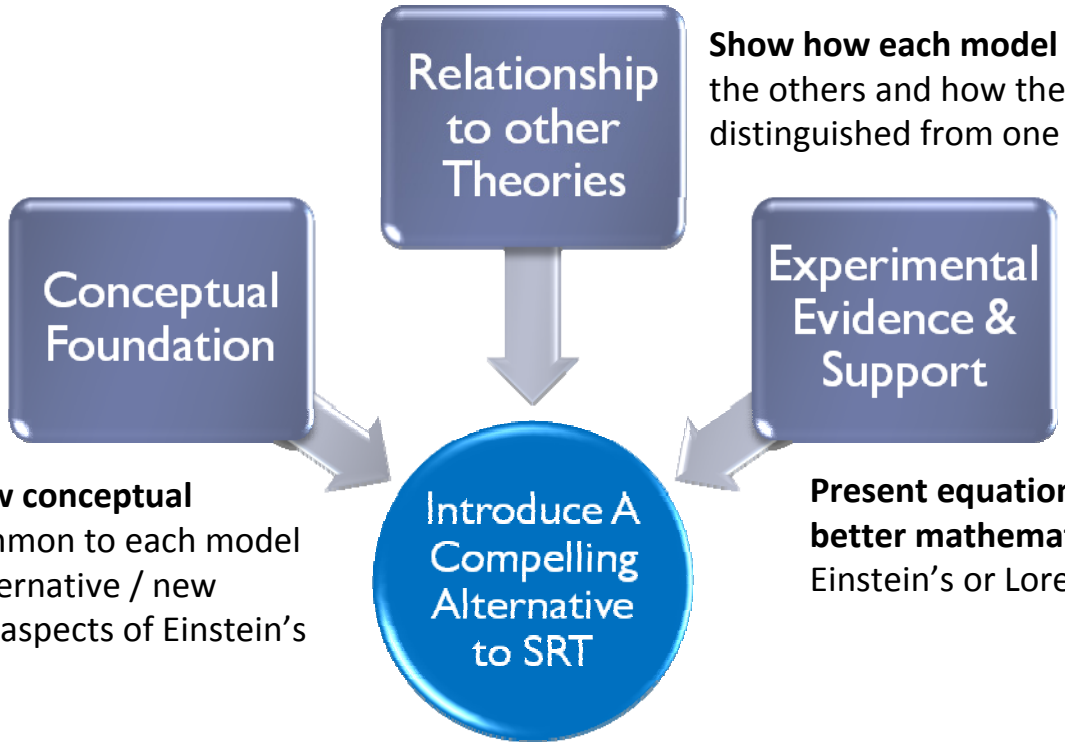
# The Model of Complete and Incomplete Coordinate Systems

AGENDA




**Show how each model is related** to the others and how they are distinguished from one another

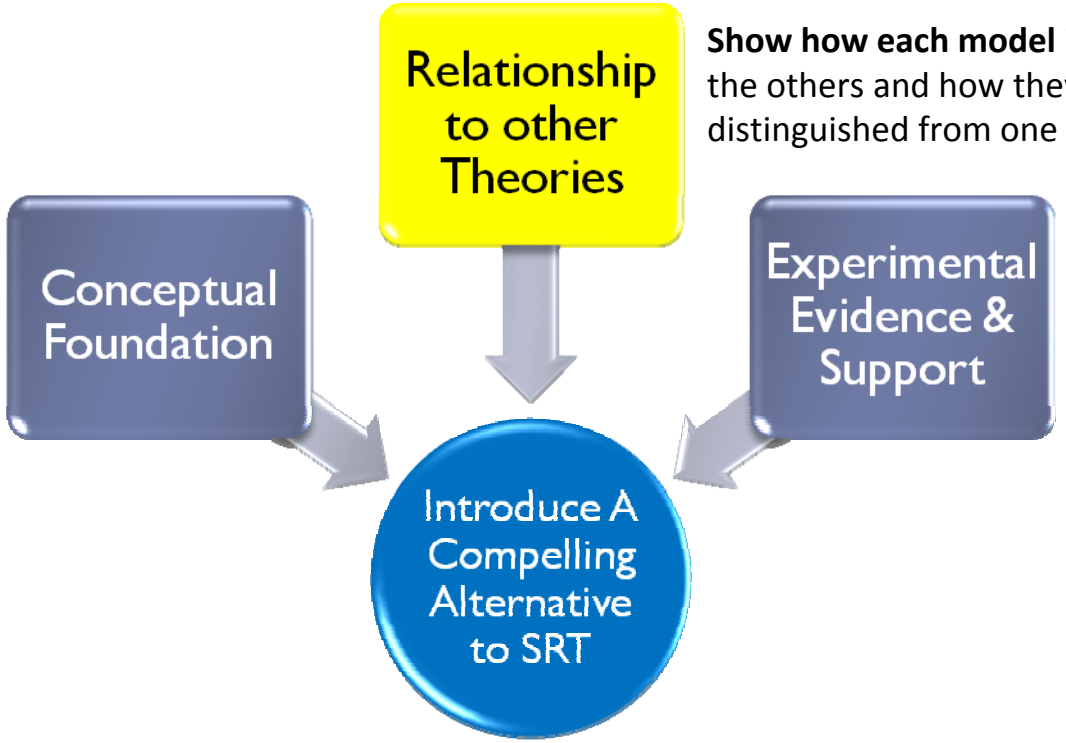
**Describe new conceptual features** common to each model and gives alternative / new meanings to aspects of Einstein's derivation

**Present equations that produce better mathematical results** than Einstein's or Lorentz's equations

**Criteria**

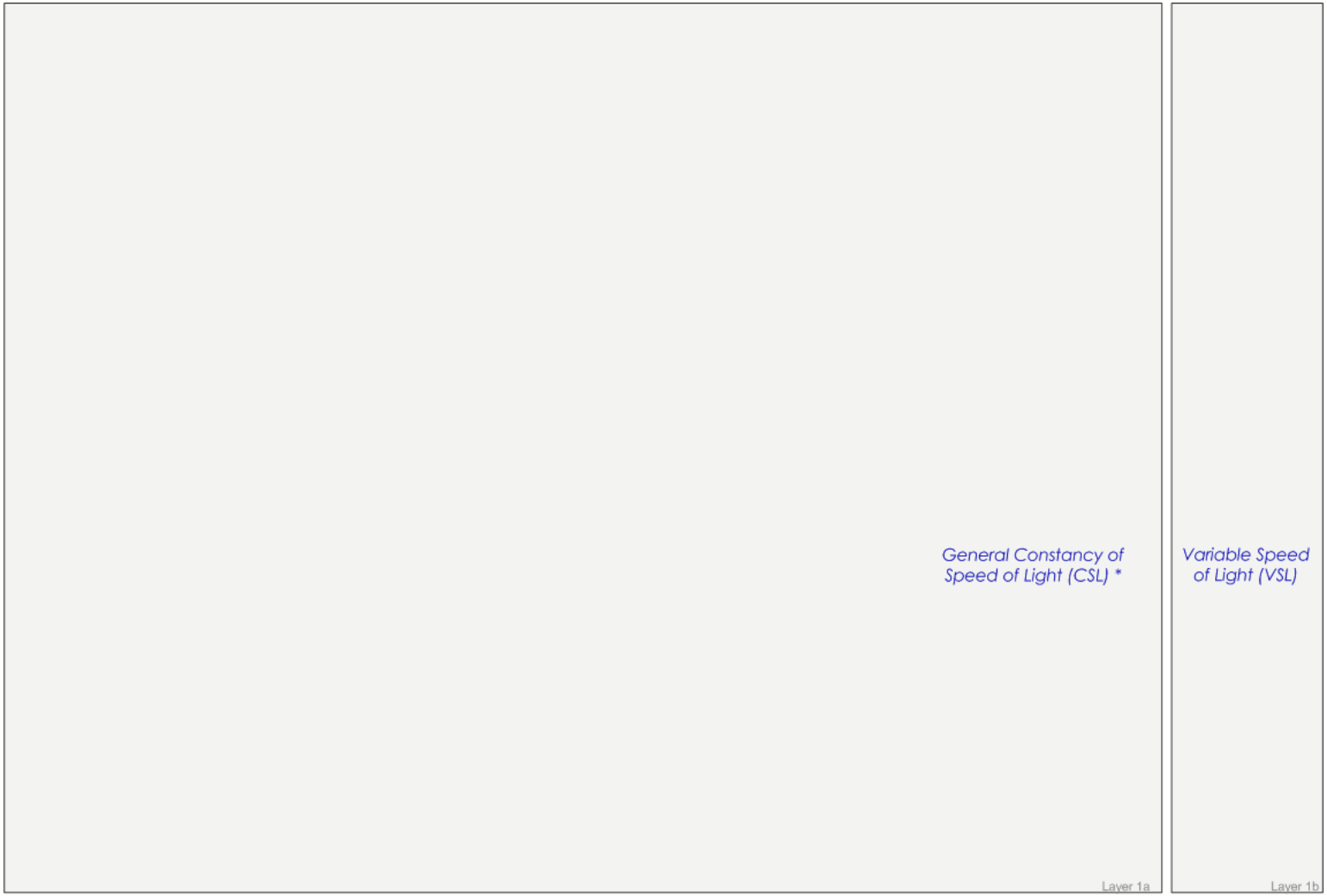
Any compelling alternative **must be rational and produce equal or better mathematical results** than SRT

# AGENDA




**Show how each model is related** to the others and how they are distinguished from one another

# Key Theories and Core Assumptions

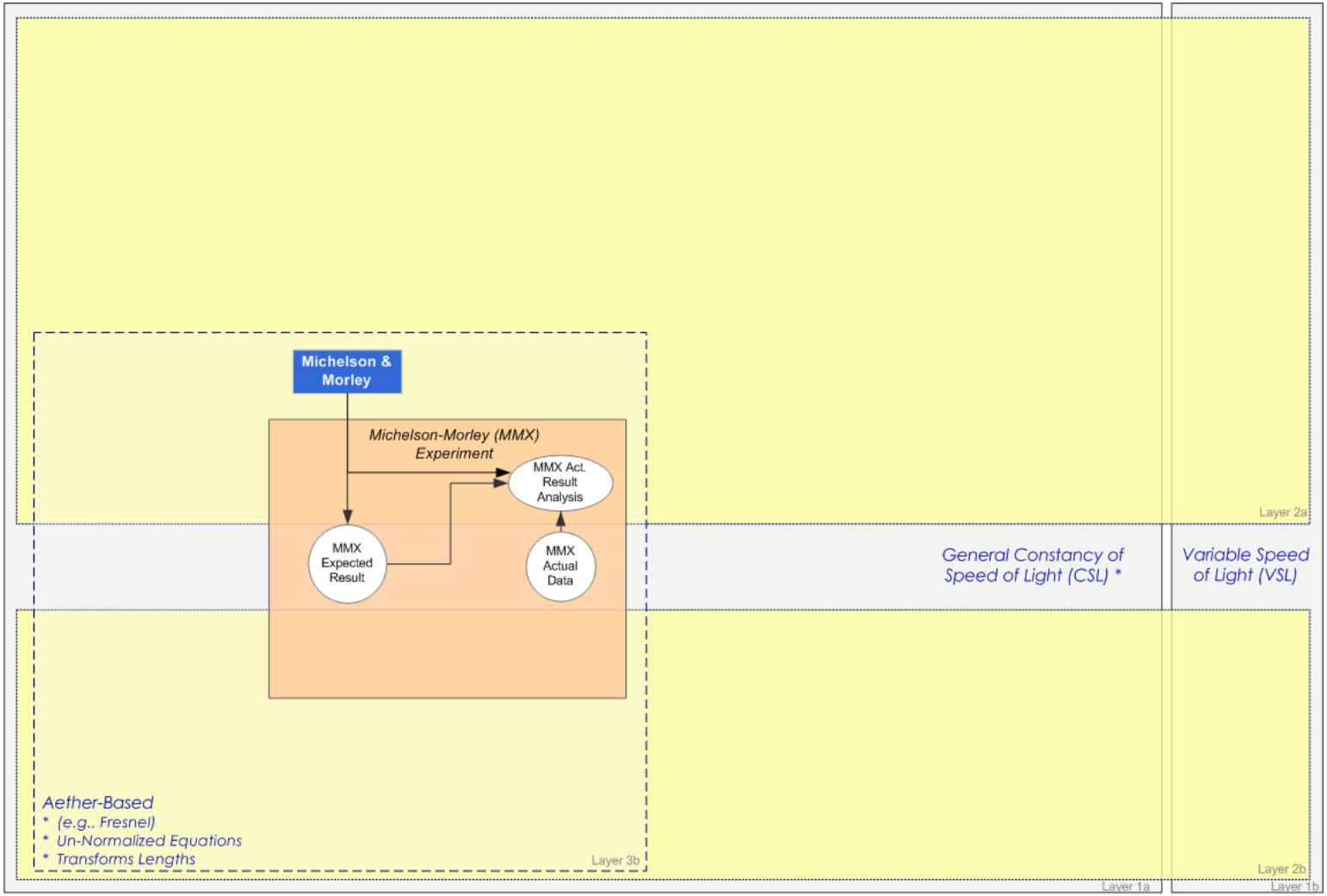



1. Assumption Layer 1 – Assume that the speed of light is constant or assume that it varies

# Key Theories and Core Assumptions

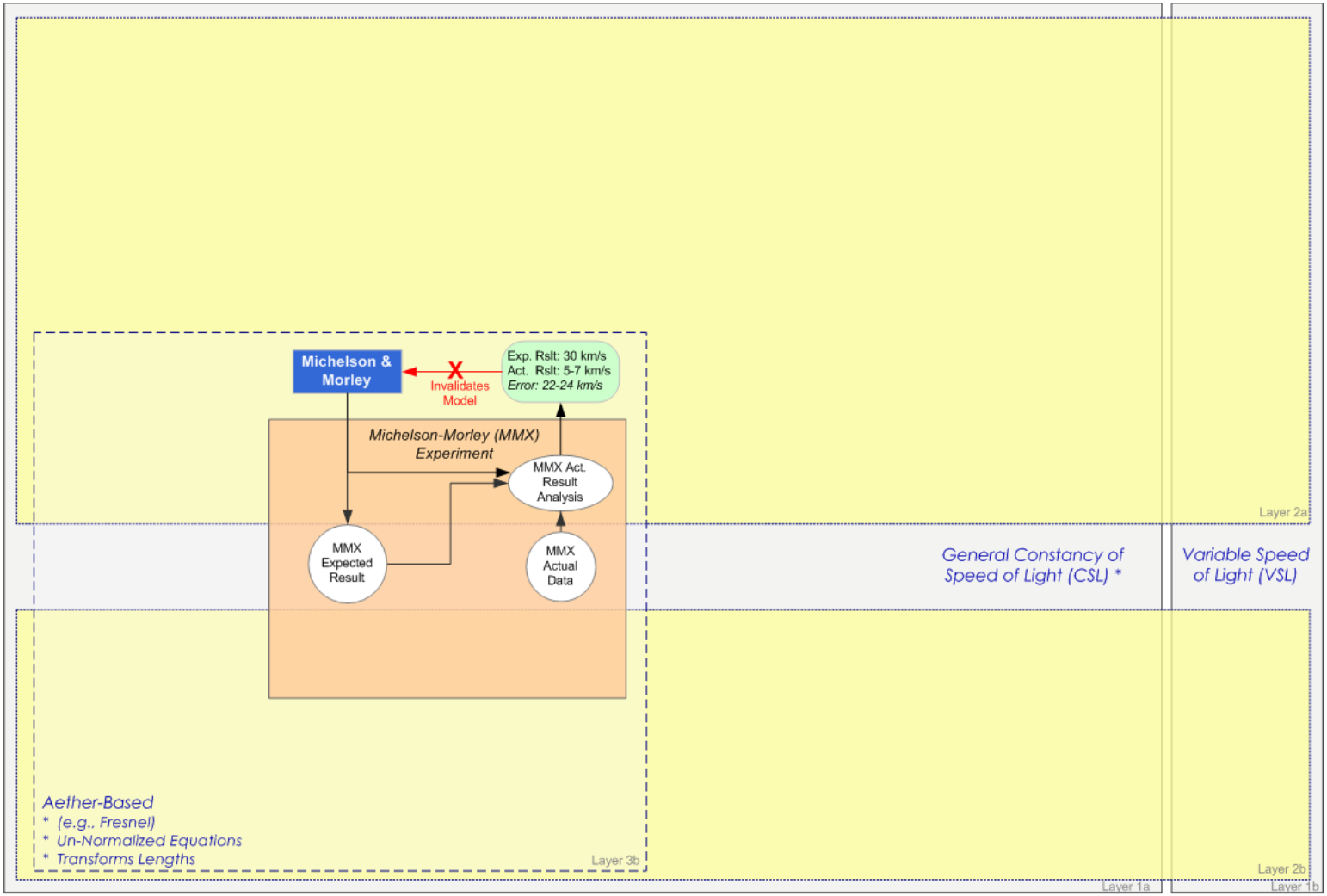

2 Assumption Layer 3b – Frensel proposed an Aether that serves as a transport medium for light. (Layer 2, in yellow, will be elaborated upon in a later slide)

# Key Theories and Core Assumptions




Michelson and Morley perform an Interferometer experiment to validate Fresnel's assumption

# Key Theories and Core Assumptions



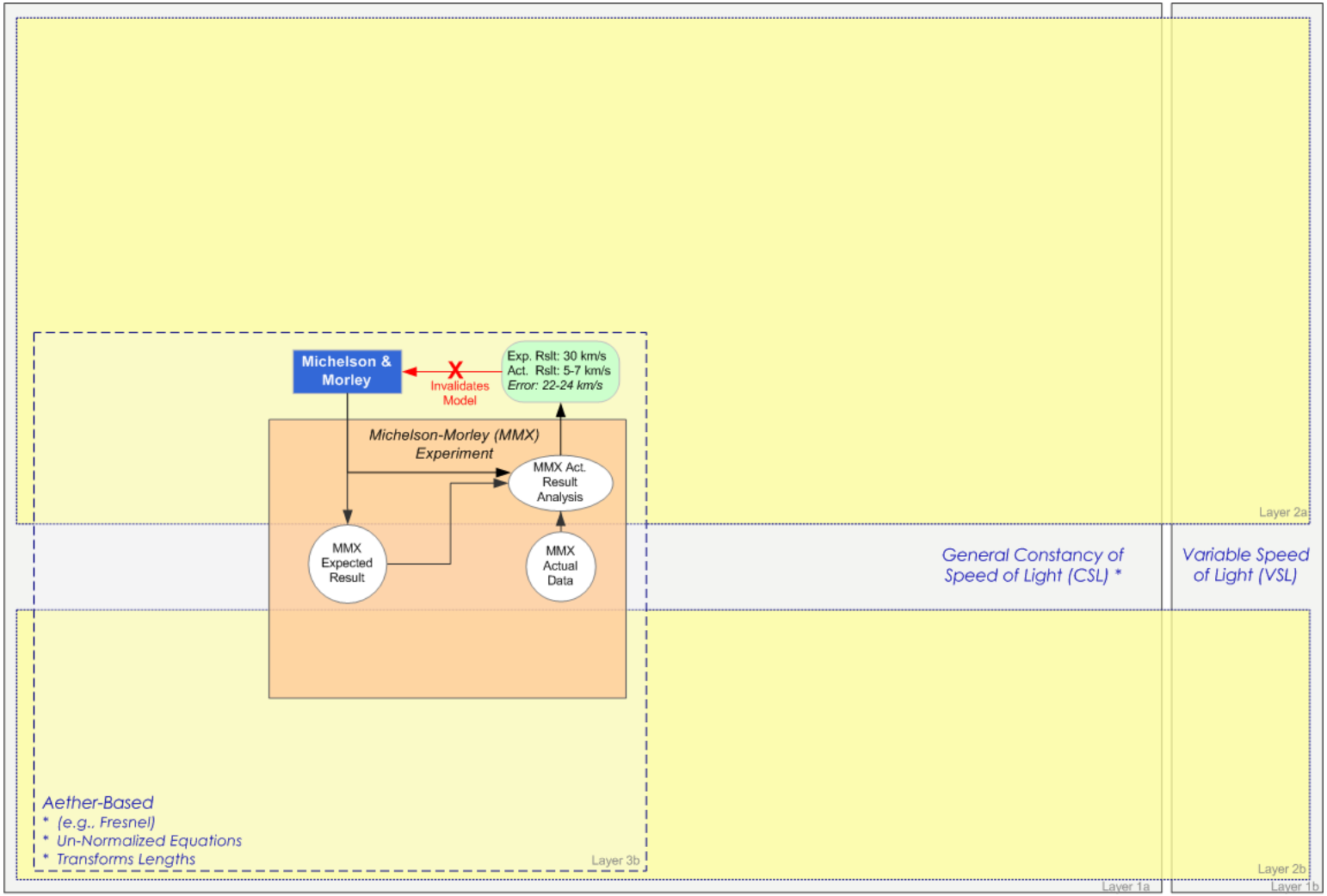

Michelson and Morley concluded that their experimental results did not support Fresnel's assumption

# Lorentz's Motivation

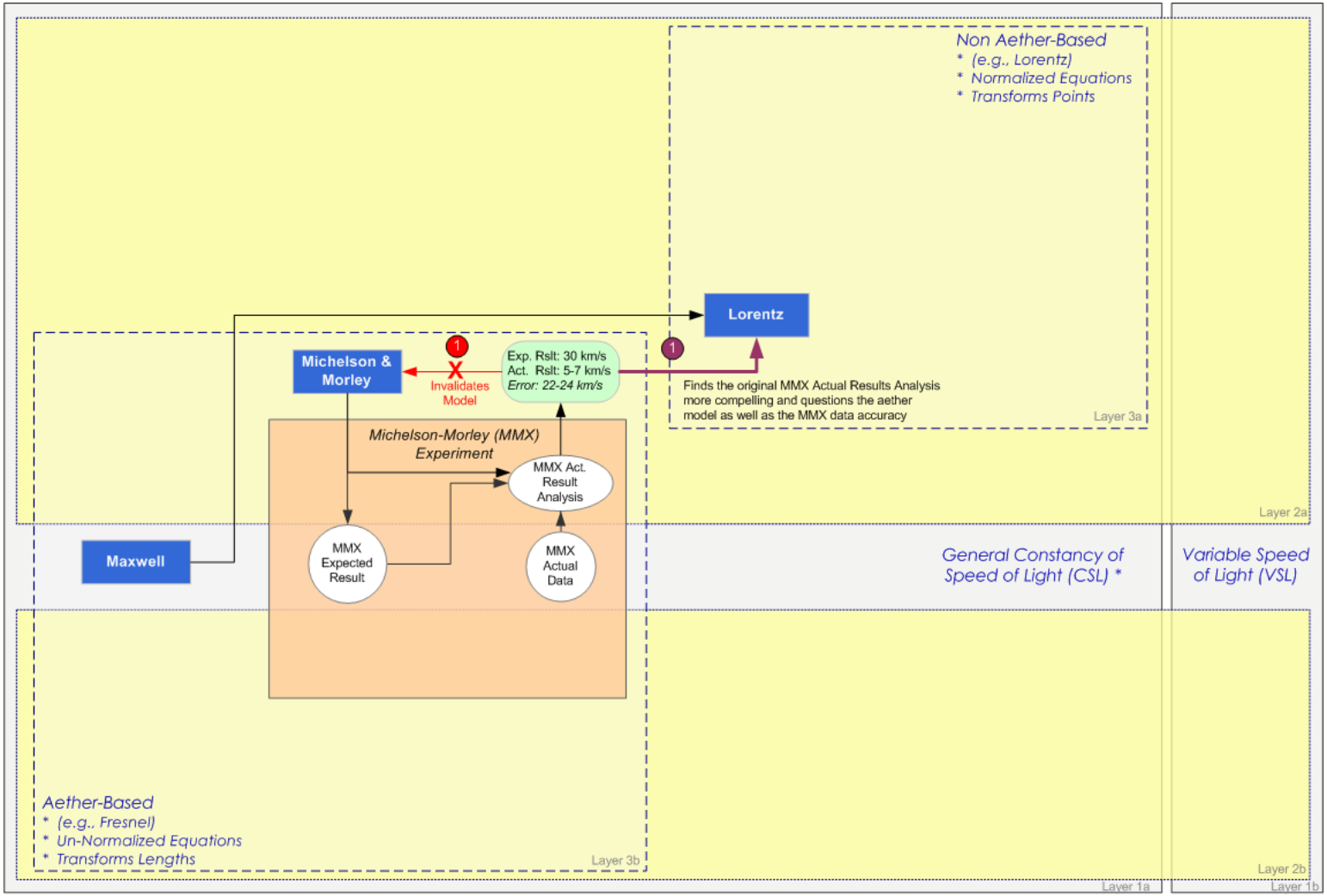
*"…in order to explain Michelson's negative result, the introduction of a new hypothesis has been required…"*

- H.A. Lorentz, 1904

# Key Theories and Core Assumptions

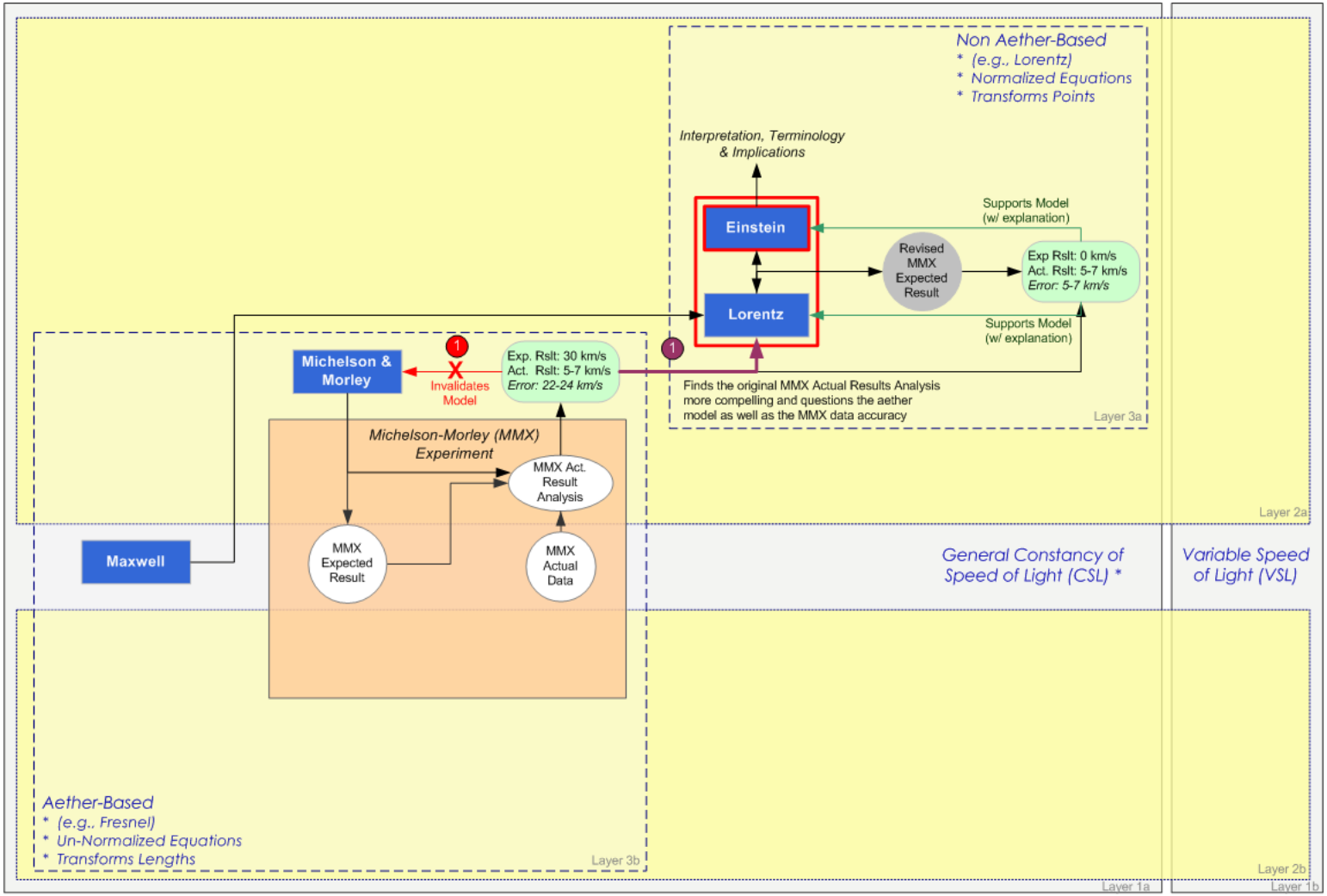


# Key Theories and Core Assumptions



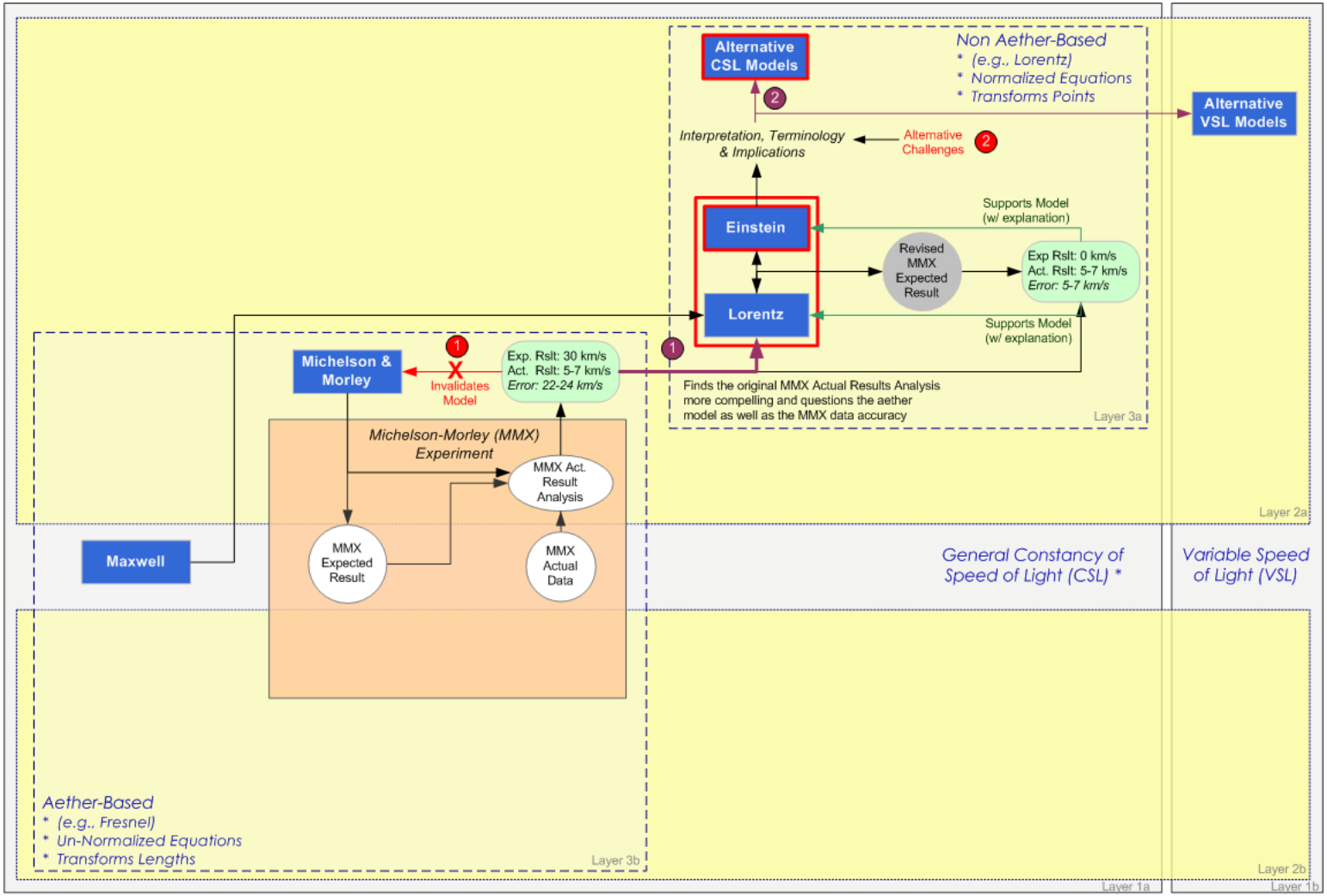

3 Assumption Layer 3a – Lorentz proposes a non-Aether-based model to explain the apparent failure of the Michelson-Morley experiment

# Key Theories and Core Assumptions




Einstein's model is also a non-Aether-based model that shares many of the same characteristics as Lorentz's

# Key Theories and Core Assumptions




Most challengers attack assumptions, terminology, implications or paradoxes associated with SRT and propose non-Aether-based or VSL alternatives

# Lorentz's Motivation

*"…in order to explain Michelson's negative result, the introduction of a new hypothesis has been required..."*

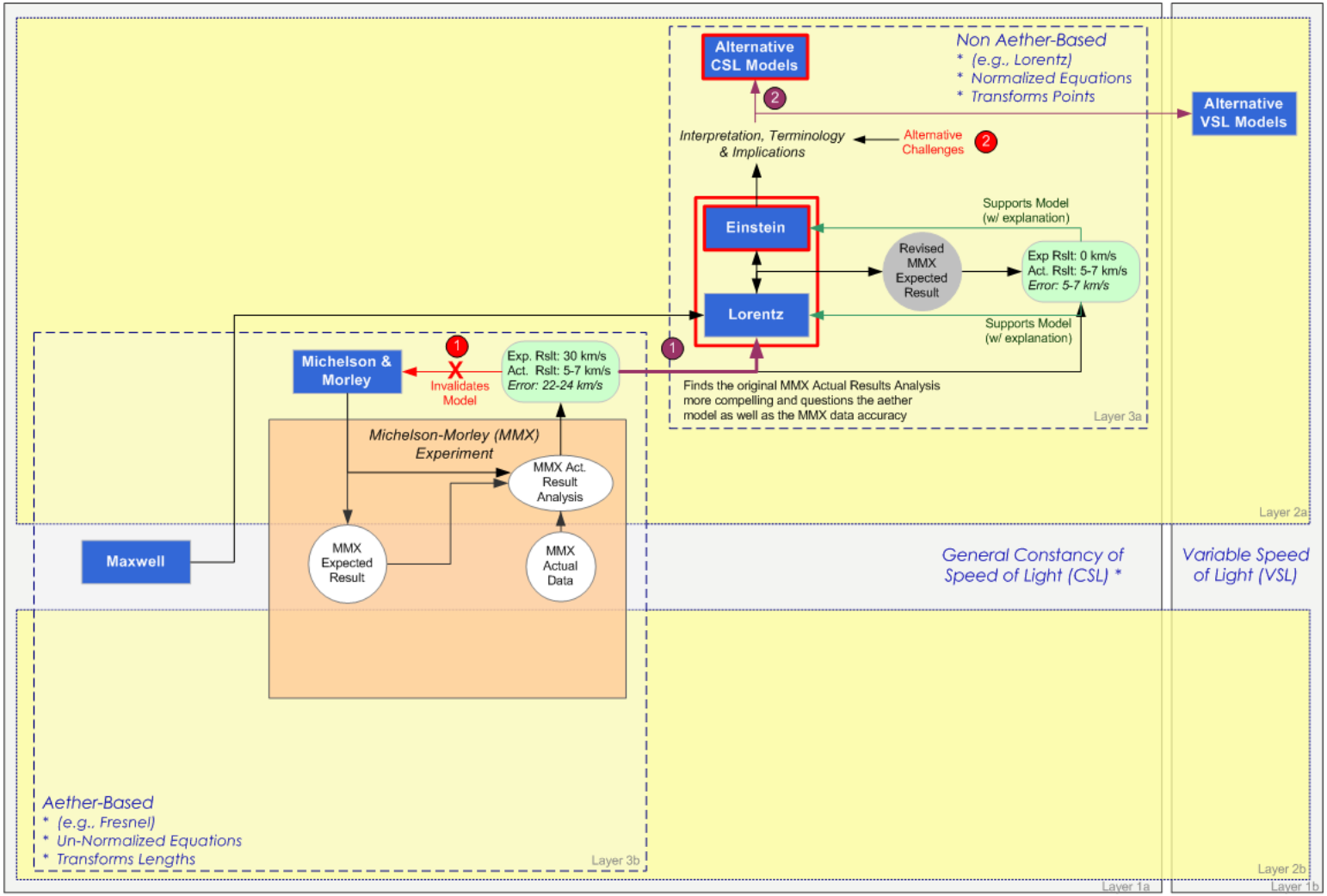
- H.A. Lorentz, 1904

# Lorentz's Motivation

*"…in order to explain Michelson's negative result, the introduction of a new hypothesis has been required, and that the same necessity may occur each time new facts will be brought to light."*

- H.A. Lorentz, 1904

# Key Theories and Core Assumptions



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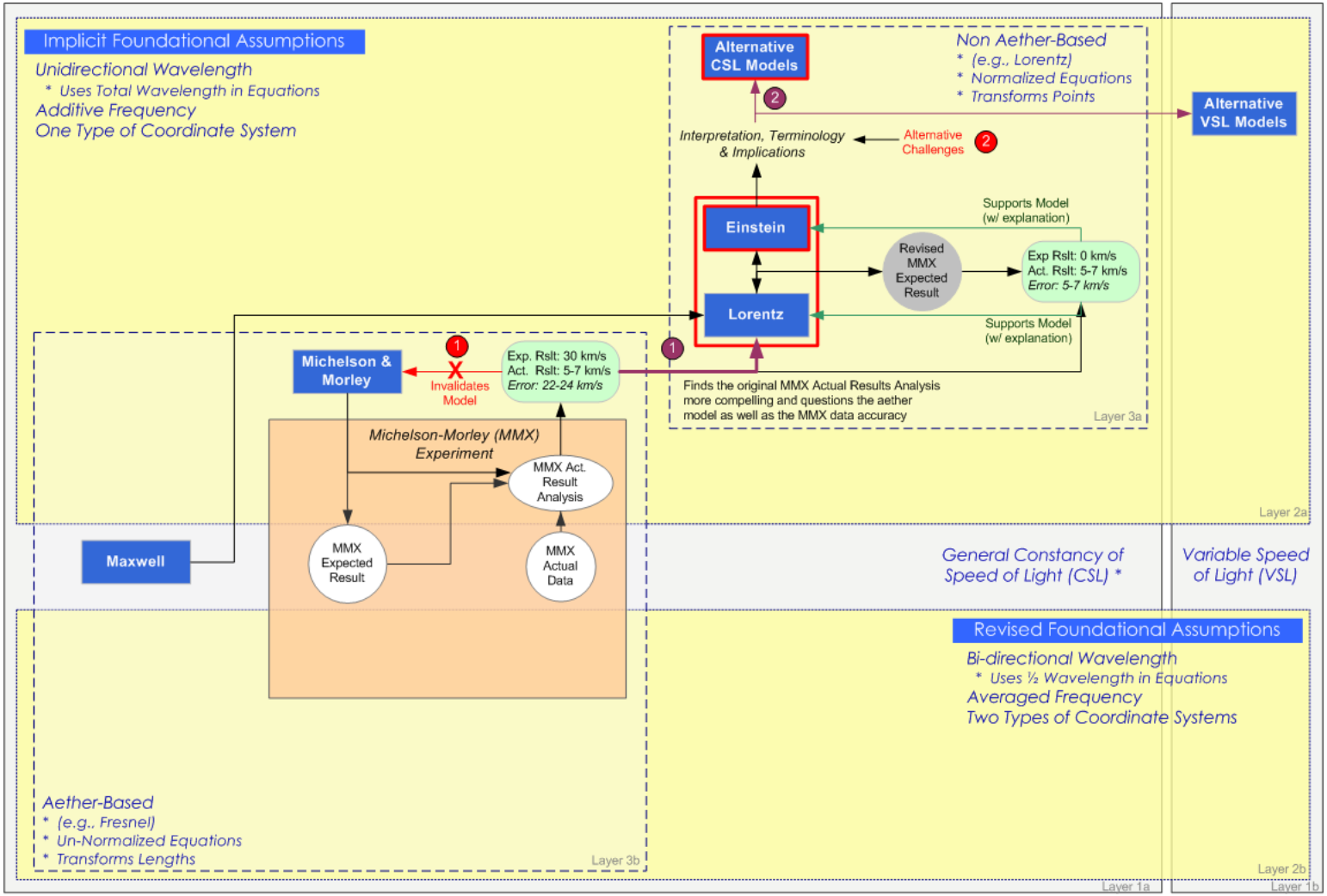
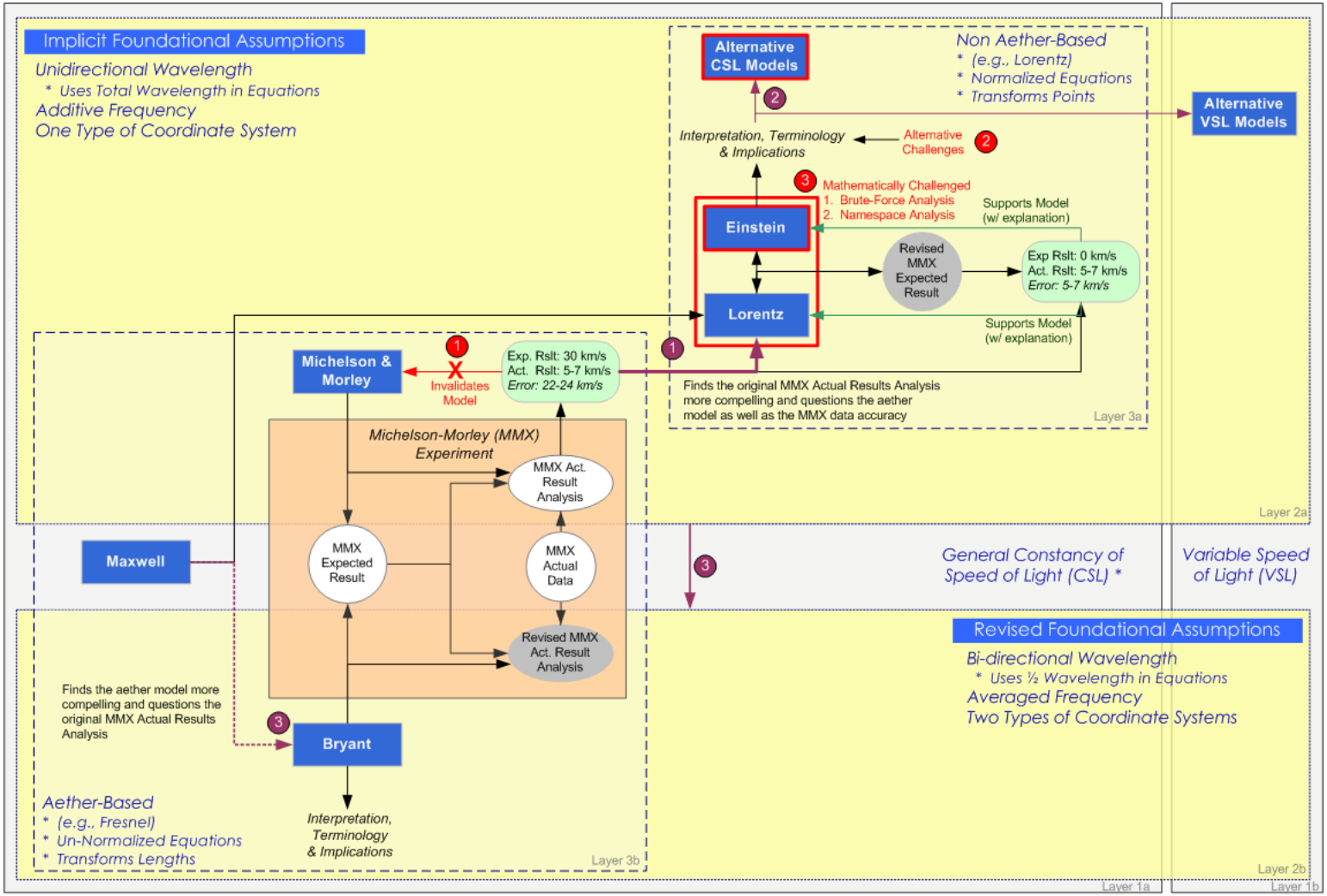


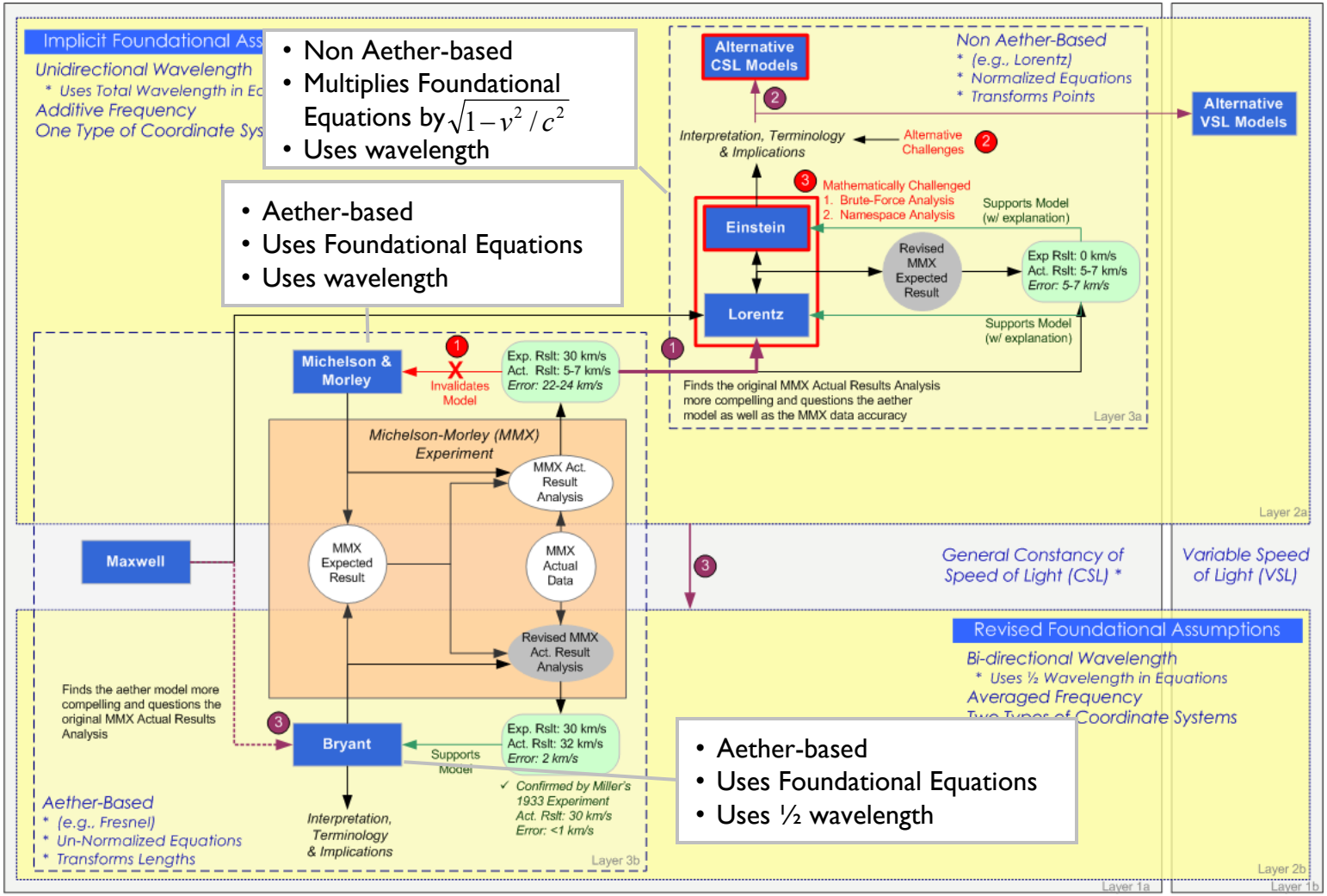

4 Assumption Layer 2 – Bryant introduces "New Facts" and Revises the Foundational Assumptions (Layer 2b) to reflect Bi-Directional wavelength

# Key Theories and Core Assumptions




**The Model of Complete and Incomplete Coordinate Systems** is an Aether-based model built upon this new assumption backdrop

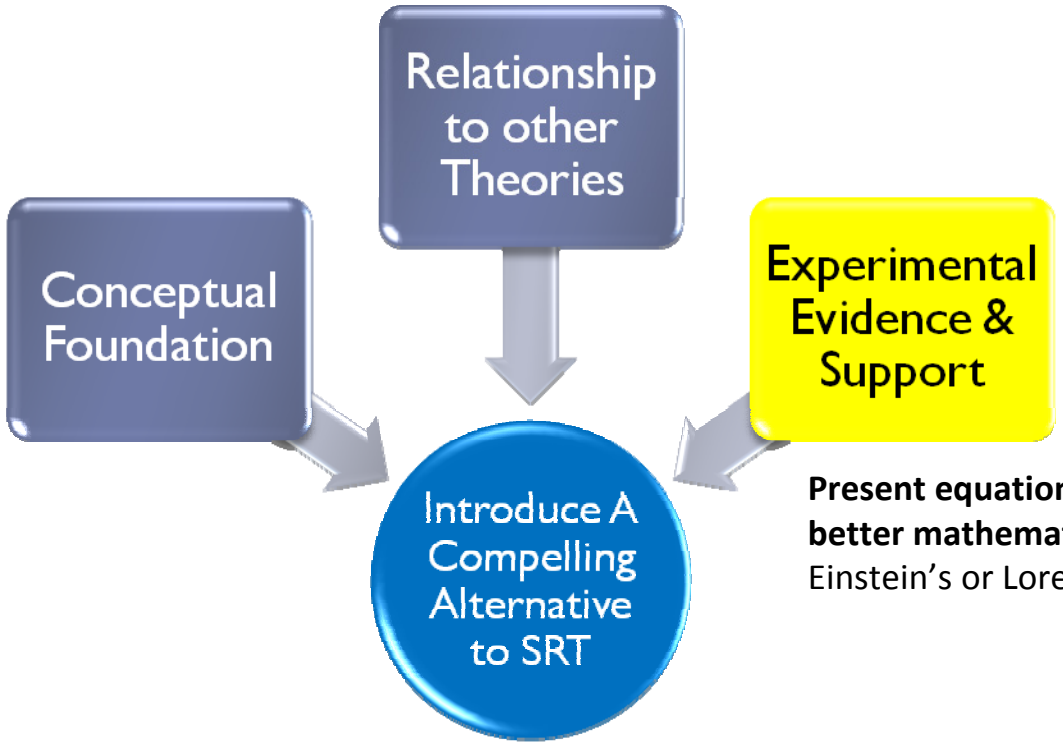
# Key Theories and Core Assumptions




**New Finding** Mathematical confirmation of 30 km/s using the MMX data removes Lorentz's motivation to create his model

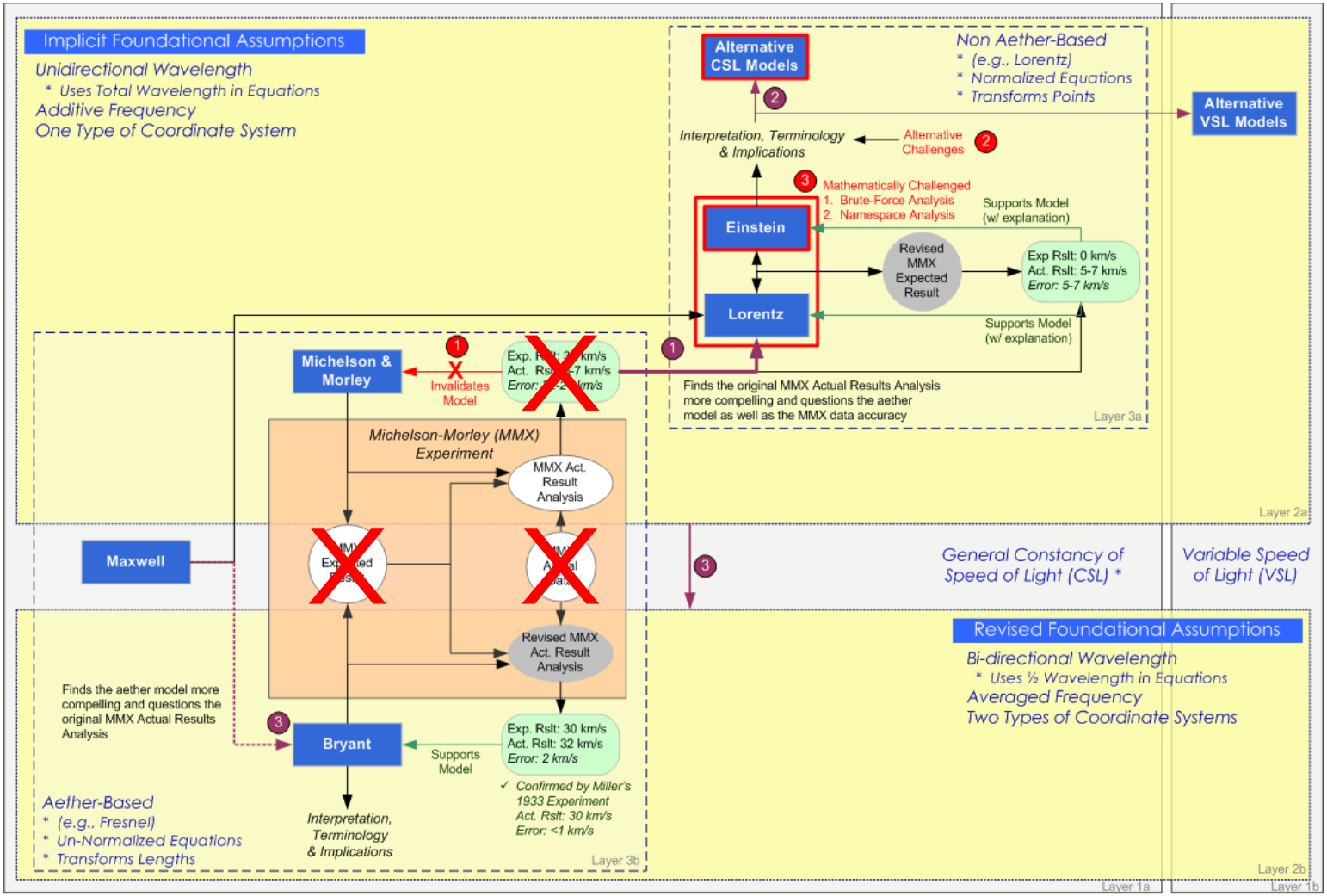
Bryant finds that the Michelson and Morley data, when evaluated using the revised assumptions, supports Fresnel's assumption

# AGENDA




**Present equations that produce better mathematical results** than Einstein's or Lorentz's equations

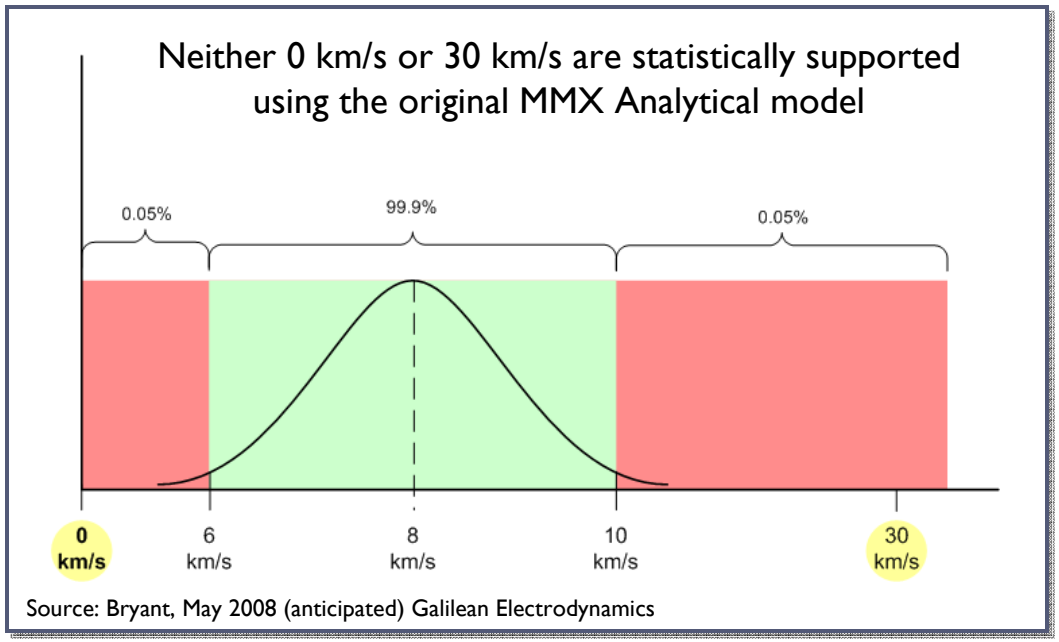
# Key Theories and Core Assumptions




Most aspects of the Michelson-Morley experiment must be rejected for it to be interpreted as supporting SRT (or any non-Aether-based model)

# MMX Actual Result Range

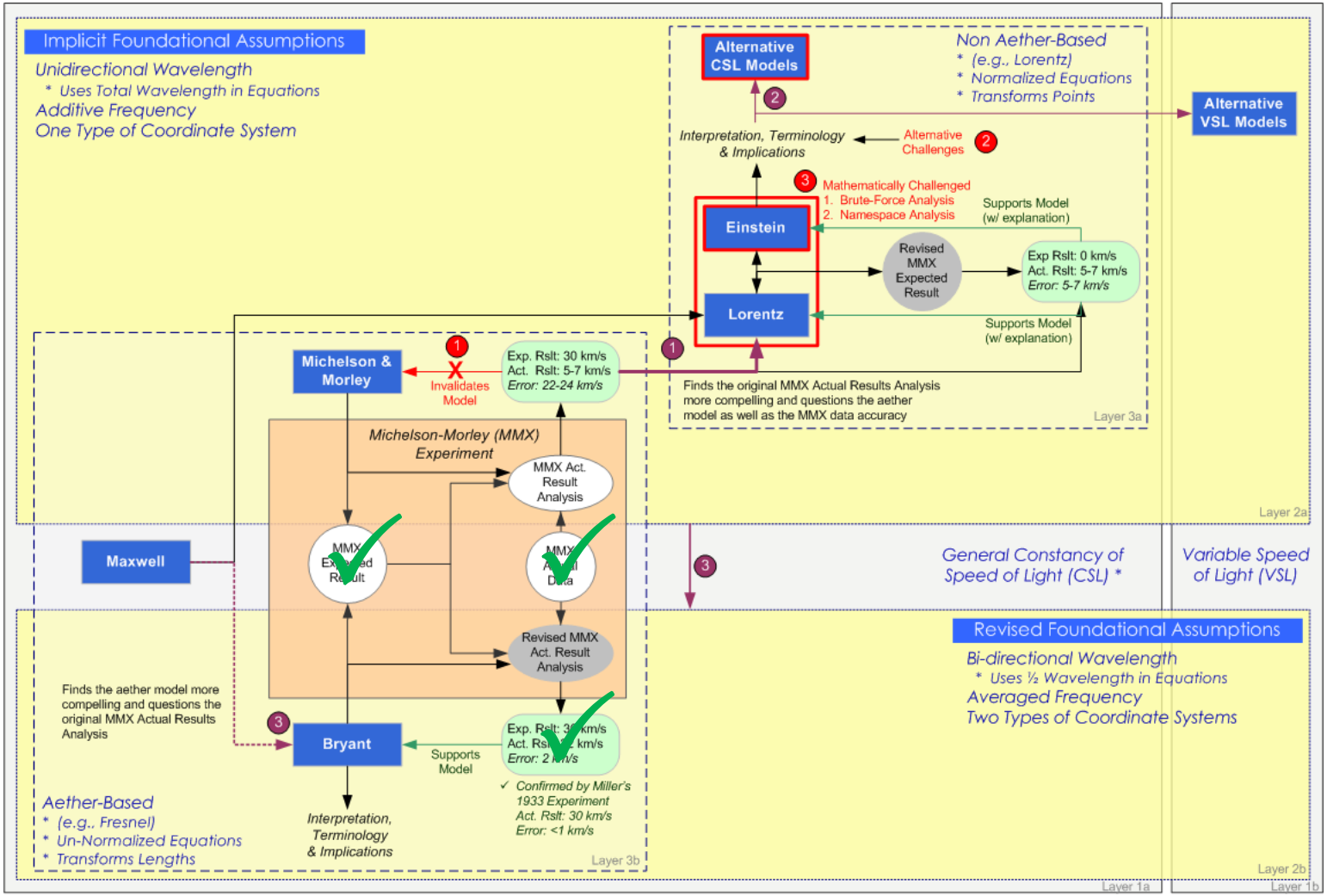
The failure of MMX to support Fresnel's Aether-based model, does not result in the success of SRT as a non-Aether-based model.



Source: Bryant, May 2008 (anticipated) Galilean Electrodynamics

- Based on **original** (previously unstated) foundational assumptions
- Using the MMX analytics, there is less than 0.05% chance that 0 km/s (or 30 km/s) is the experimentally supported actual result.
- Experimental Divergence w/ Miller
- 0 km/s is only obtained only if the MMX experimental raw data is rejected in its entirety as "experimental error"
- **SRT result of 0 km/s is not statistically supported**

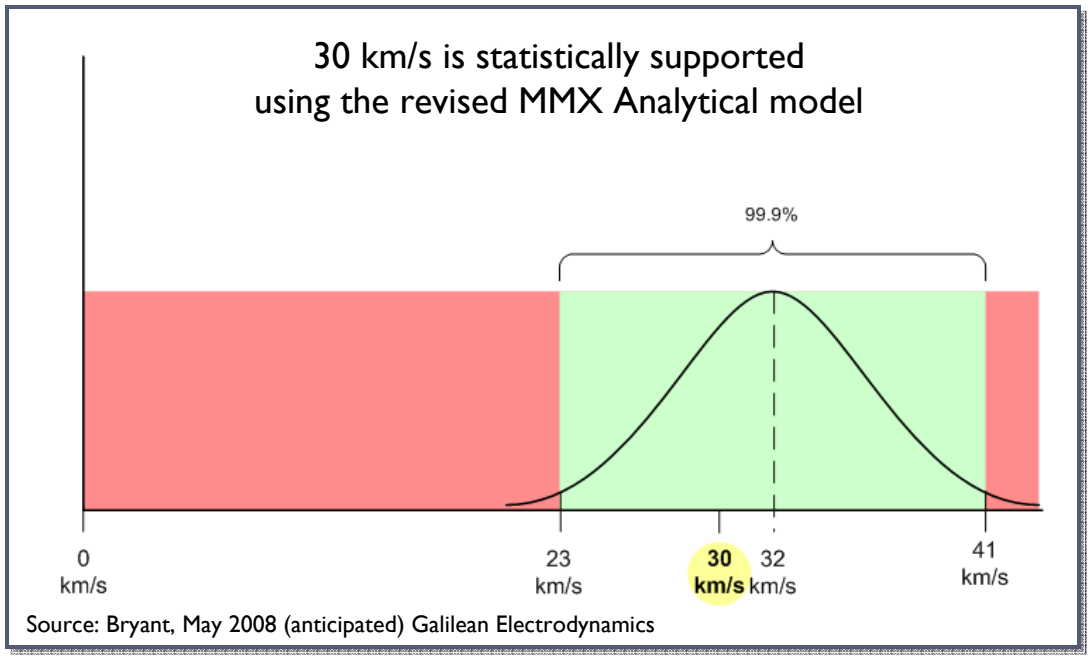
# Key Theories and Core Assumptions




Only the "analytics" of the Michelson-Morley experiment need to be revised in order for the experiment to produce results that confirm an Aether-based model

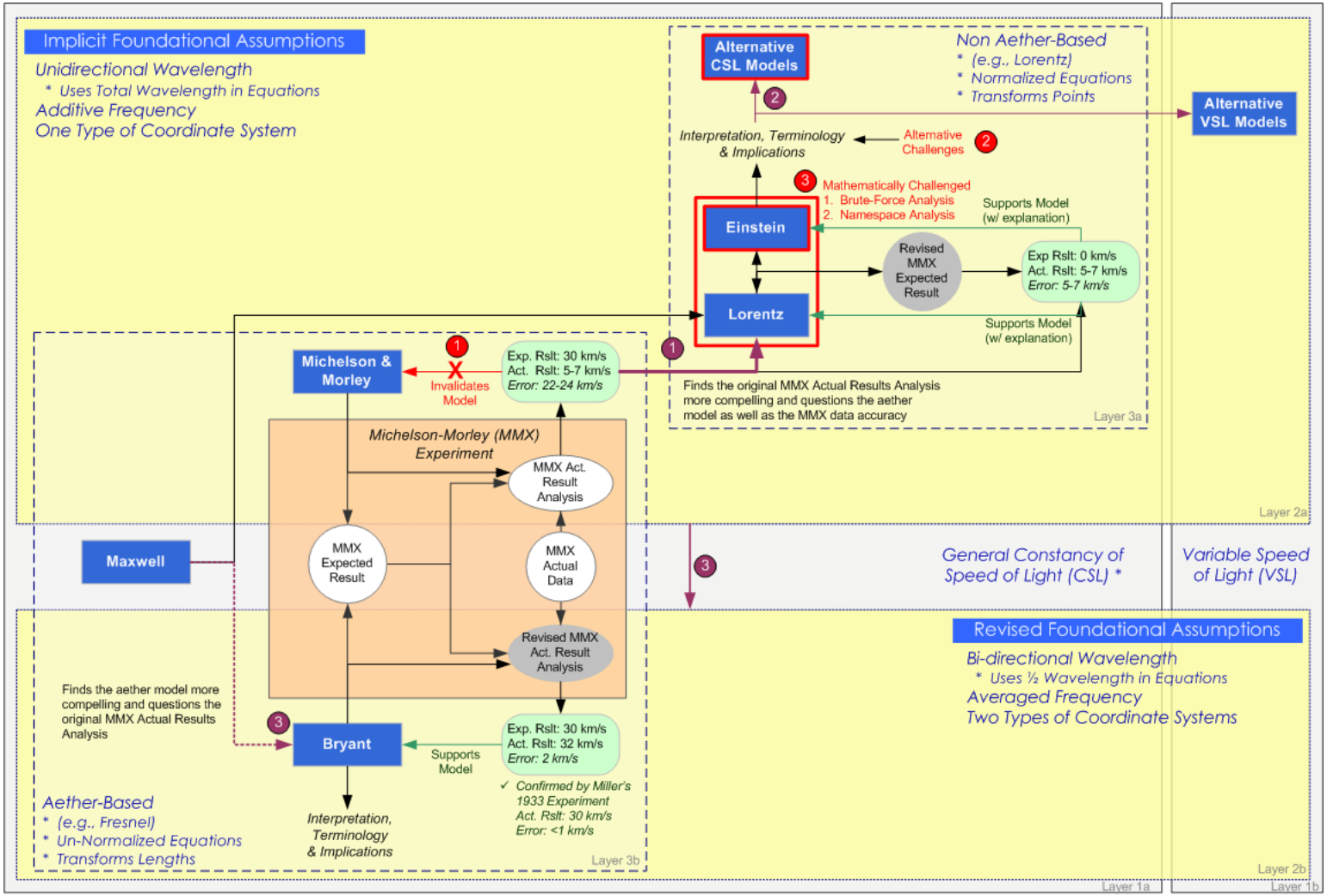
# Revised MMX Actual Results Range

The MMX data, when analyzed against the revised foundational assumptions, produces the experimenter's expected result of 30 km/s.




- Based on **revised** (previously unstated) foundational assumptions
- Produces an actual result of 32 km/s (actual result) when it was expected to produce 30 km/s
- Using the MMX equations, and new analytical model, the experiment statistically supports the expected result of 30 km/s
- Experimental Convergence w/ Miller
- Miller's repeat 1933, more accurate experiment, produced an actual result of 30 km/s – **An Exact Match!**

# Key Theories and Core Assumptions



# The Ives-Stillwell Atomic Clock Experiment

The revised equations predicts the Ives-Stillwell Atomic Clock experiment with **equal or greater accuracy than the SRT equations**.

Expected and Actual Results of the Doppler Displacement

| # | Plate | Actual Result | Einstein Expected Result | Einstein Variance |
|---|---|---|---|---|
| 1 | 169 | 10.35 | 10.3610 | 0.0110 |
| 2 | 160 | 14.02 | 14.0403 | 0.0203 |
| 3 | 163 | 15.40 | 15.4245 | 0.0245 |
| 4 | 170 | 16.49 | 16.5181 | 0.0281 |
| 5 | 165 | 14.07 | 14.0904 | 0.0204 |
| 6 | 172 | 18.67 | 18.7060 | 0.0360 |
| 7 | 172 | 15.14 | 15.1637 | 0.0237 |
| 8 | 177 | 21.37 | 21.4172 | 0.0472 |
| -- | **mean** | **15.69** | **15.7151** | **0.0264** |

Source: Bryant, Revisiting the Ives-Stillwell Experiment, (Accepted) Galilean Electrodynamics

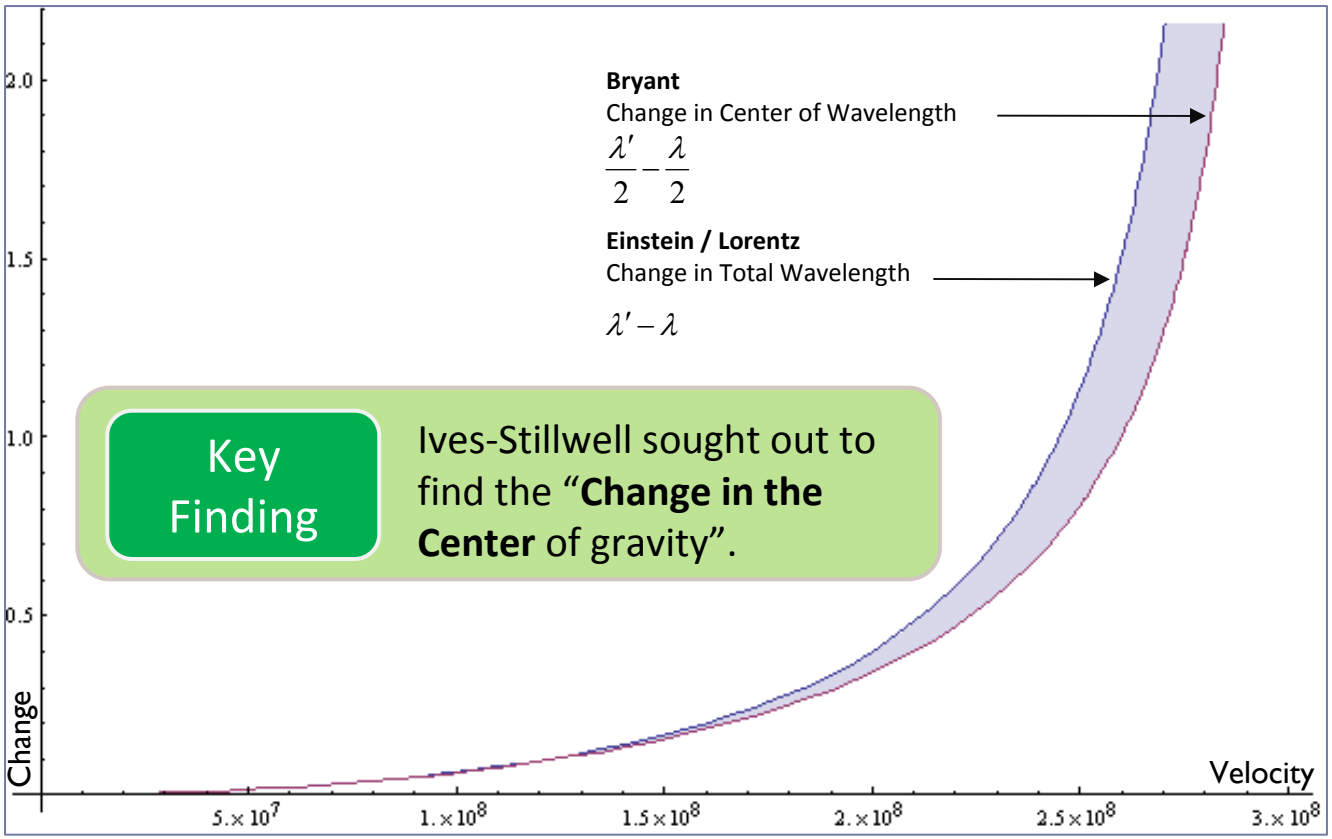
- **The Special Relativity Theory based equations produce close results with a small error of 0.02 to 0.03**, to the degree of accuracy of the experiment
- **The model of Complete and Incomplete Coordinate Systems equations produce 0 error,** to the degree of accuracy of the experiment
- Both models predict good results

Key Finding

The accuracy of these Aether-based equations **challenges the assertion that the Einstein-Lorentz equations are the only equations that can predict the results of this experiment!**

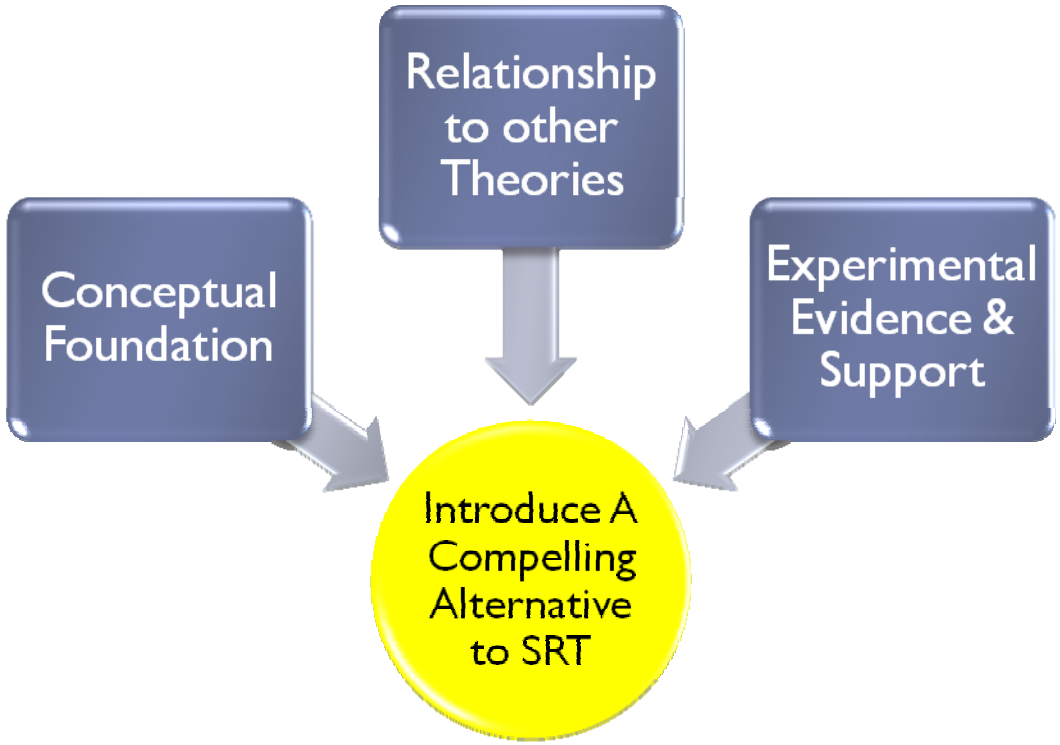
# Predicted Results of the Ives-Stillwell Experiment

The Einstein/Lorentz and Bryant models produce nearly identical expected results.




- Einstein / Lorentz equations produce a result that
  - Reflects a change in a full-wavelength
  - Non-Aether-based
- Bryant equations produce a result that
  - Reflects a change in the "center" of a full-wavelength
  - Aether-based
  - Gives slightly better results for the Ives-Stillwell experiment

# AGENDA


Relationship to other Theories
Conceptual Foundation
Experimental Evidence & Support
Introduce A Compelling Alternative to SRT

# Summary of Key Findings

The model of Complete and Incomplete Coordinate Systems may offer concepts and produce mathematical results that you can agree with and share more broadly.

**Implications for Science & Engineering**

- Equations **provide better mathematical results** (e.g., less error)
- Scientist and engineers should **use equations that produce the best results**

**New Discoveries & Paths**

- **An Aether-based model** that is **experimentally consistent**
- **Bi-Directional** aspect of Wavelength and Frequency
- **Removes Lorentz's motivation** for creating a non-Aether model
- Transforms **Lengths instead of Points**

**Message for the Broader Community**

- Is the only model where **Michelson-Morley and Miller give the same experimentally consistent result!**
- **Gives meaning to unexplained mathematics** in Einstein's work
- **Aether-based model that explains Ives-Stillwell**
- **Einstein's and Lorentz's derivations are Bi-Directional**

# Research Questions

There are many interesting questions that might be answered using the framework established with the model of Complete and Incomplete Coordinate Systems.

| Area | Research Questions |
|---|---|
| **Mathematical Similarities** | Why do the original equations (based on change in wavelength) and the revised equations (based on change in ½ wavelength) produce nearly identical results (e.g., in the Ives-Stillwell experiment for most values)? |
| **Muon Experiments** | How does the revised equations "fit" against the muon experiments? Does this mean that there is an inherent "wavelength" or "frequency" that can be determined? |
| **Pioneer Spacecraft** | Do the revised equations produce results, that are a better fit with the obtained data, to help explain the "anomalies" with the Pioneer spacecrafts? |
| **Quantum Mechanics** | How does the model, which supports wave mediums with velocities greater than c, align with Quantum Mechanics? |
| **Experimental Evidence** | Are there other classes of experiments that can be explained using the model of Complete and Incomplete Coordinate Systems? |


# Thank You

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