

# P1 – Interpretation and Solutions of the Scalar Equation

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August 9, 2025

## Goal

Explore the physical and mathematical meaning of the imaginary scalar equation derived from the unified field equation  $\Theta(q, \tau)$ .

## Equation of Interest

From the scalar-imaginary projection:

$$\Im[\text{Sc}(\mathcal{D}_q \Theta(q, \tau))] = 0$$

## Strategy

- Analyze its form under spherical symmetry and FRW cosmology.
- Test if this reduces to a constraint on topology or yields new scalar fields.
- Examine links to axion/dilaton or inflaton-like dynamics.

## Next Steps

- Write  $\Theta$  under spherical symmetry.
- Perform symbolic computation of imaginary scalar part.
- Solve for specific boundary conditions.

## Author's Note

This work was developed solely by Ing. David Jaroš. Large language models (ChatGPT-4o by OpenAI and Gemini 2.5 Pro by Google) were used strictly as assistive tools for calculations, LaTeX formatting, and critical review. All core ideas, equations, theoretical constructs and conclusions are the intellectual work of the author.