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A Multi-Scale Hybrid Model for Plant Development: Theoretical and Numerical Study

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Abstract

This work develops a theoretical investigation of a multi-scale hybrid model designed to describe plant growth dynamics. The proposed framework combines continuous and discrete mechanisms to represent the interactions among plant development, environmental factors, and soil nutrient availability. We examine the mathematical formulation of the model and explore its theoretical properties, emphasizing its significance for understanding plant growth processes across different spatial and temporal scales.

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