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## Reduced Models for Relativistic Plasmas: Integration of “particle-in-cell” Simulations and Machine Learning

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The main objective of this project is the development of reduced models for plasma dynamics, formulated as partial differential equations derived from particle-in-cell (PIC) simulations, with a focus on the yet unexplored regime of relativistic plasmas. The development of these models will enable the inclusion of phenomena that can only be captured by kinetic dynamics in fluid models.

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