

PRyMordial: A tool for Dark Sectors in the Early Universe

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In this presentation, we introduce PRyMordial: a specialized tool designed for efficient computations of observables in the Early Universe, specifically focusing on the cosmological epoch of Big Bang Nucleosynthesis (BBN). We will succinctly outline the key features of the package, emphasizing its ability to rapidly and accurately evaluate BBN light-element abundances alongside the effective number of relativistic degrees of freedom, accounting for non-instantaneous decoupling effects. The majority of our discussion will be dedicated to demonstrating how PRyMordial facilitates comprehensive investigations into New Physics active during BBN, with a particular emphasis on the physics of Dark Sectors.

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