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PhaseTracer: finding cosmological phases and calculating transition properties

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Phase transitions played an important role in the very early evolution of the Universe. We present a C++ software package (PhaseTracer) for finding cosmological phases and calculating transition properties involving single or multiple scalar fields. The package first maps the phase structure by tracing the vacuum expectation value (VEV) of the potential at different temperatures, then finds out all possible transitions between them, and finally computes their critical temperatures and transition strengths. PhaseTracer is constructed with modularity, flexibility and practicality in mind. It is fast and stable, can receive potential provided by other packages and connect to BubbleProfiler to calculate action of transition.

Consider for promotion

No

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