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Influence of interactions terms on non-perturbative particle production and preheating

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We have investigated effects of interaction terms on non-perturbative particle production. It is well known that a time-varying background induces abundant particle production, such as the preheating theory. As our conclusion, it is possible to induce particle production even if particles do not couple to the background directly. Such particles are produced through the interactions with other fields, which couple to a varying background. In this talk, we will demonstrate with a simple but illustrative model and discuss the influence of the discussed mechanism on preheating.

Presenter: ENOMOTO, Seishi (Faculty of Physics, University of Warsaw, Poland) **Session Classification:** Inflation and phase transitions