

# Negative Weights in Monte Carlo Samples.

*Friday 13 September 2024 09:23 (7 minutes)*

Monte Carlo methods are indispensable tools in computational physics. However, one of the challenges encountered in Monte Carlo simulations is the occurrence of negative weights in samples. In this talk, we delve into the origins of negative weights in Monte Carlo samples, exploring their implications and practical significance. We discuss strategies to mitigate the effects of negative weights. Specifically, we focus on two approaches: optimizing event generation processes and employing cell-resampling techniques. The latter approach, which I actively utilize in my research, involves redistributing samples within discrete regions (cells) to maintain statistical integrity and mitigate the impact of negative weights.

## Summary

**Presenter:** DOLGANOV, Nikita (Simon Fraser University (CA))