# Article information:

[2207.11910] Highly non-Gaussian tails and primordial black holes from single-field inflation
<https://arxiv.org/abs/2207.11910>

# Article summary:

1. The paper presents examples of inflationary models that produce highly non-Gaussian tails in the probability distribution of primordial perturbations.

2. The paper identifies the key role of off-attractor behaviour for upward-step transitions in ultra-slow-roll inflation.

3. The paper discusses implications of this non-Gaussian tail for the formation of primordial black holes, and suggests a mechanism for their formation by trapping the inflaton in the bottom of a step.

# Article rating:

Appears well balanced: The article presents the information in a reliable and balanced way, without biases and prejudices. The claims made in the article are well supported and, where applicable, all sides of the argument are given opportunity to present their point of view. The article appears trustworthy and reliable.

# Article analysis:

The article is generally reliable and trustworthy, as it provides detailed analyses and evidence to support its claims. The authors provide an extensive discussion on how deviations from Gaussian statistics on the tail of the probability distribution can be associated with non-perturbative effects of inflation, and present two particular examples to illustrate this point. They also discuss implications for primordial black hole formation, providing evidence to support their claims.

The article does not appear to have any major biases or one-sided reporting, as it presents both sides equally and explores counterarguments where appropriate. It does not contain any promotional content or partiality, and possible risks are noted throughout the text.

The only potential issue with the article is that some claims may be unsupported or missing points of consideration; however, these are minor issues that do not detract from the overall reliability and trustworthiness of the article.

# Topics for further research:

* Primordial black hole formation
* Non-perturbative effects of inflation
* Gaussian statistics
* Probability distribution tails
* Inflationary cosmology
* Primordial density fluctuations

# Report location:

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