

## What the heck happens when the Universe boils?

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# Primordial black hole formation by bubble collisions

*Wednesday, 7 December 2022 10:00 (1 hour)*

In this talk, I will show that primordial black holes can be formed by bubble collisions if colliding bubbles are super-horizon-sized and not run-away. The PBH abundance can be estimated by counting the number of such collisions of large bubbles for a given first-order phase transition. As a quick example, we use an effective parameters of first-order phase transitions and show that various PBH searches already rule out a part of the reasonable parameter space. In addition, some other choice of parameters can result in PBHs to be the whole dark matter.

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