

# String fragmentation in supercool confinement as a new dark matter production mechanism

*Tuesday 28 July 2020 16:20 (25 minutes)*

A new strongly-coupled sector can feature a supercooled confinement transition in the early universe. When fundamental quanta of the strong sector are swept into expanding bubbles of the confined phase, the distance between them is large compared to the confinement scale. The string of flux linking the fundamental quanta fragments and in the process produces an enhanced number of composite states. Furthermore, the resulting composite states are highly boosted in the CMB frame, which leads to additional particle production through the subsequent deep inelastic scattering. This opens several new avenues of investigation, in this talk I will focus on the one related to the composite dark matter relic density.

## Secondary track (number)

**Author:** SALA, Filippo (LPTHE)

**Presenter:** SALA, Filippo (LPTHE)

**Session Classification:** Dark Matter Detection

**Track Classification:** 09. Dark Matter Detection