## Phenomenology 2021 Symposium



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## **Thermal Squeezeout of Dark Matter**

Wednesday 26 May 2021 18:00 (15 minutes)

I present a detailed study of the confinement phase transition in a dark sector with a SU(N) gauge group and a single generation of dark heavy quark. I focus on heavy enough quarks such that their abundance freezes out before the phase transition and the phase transition is of first-order. I show that during this phase transition the quarks are trapped inside contracting pockets of the deconfined phase and are compressed enough to interact at a significant rate, giving rise to a second stage of annihilation that can dramatically change the resulting dark matter abundance. As a result, the dark matter can be heavier than the often-quoted unitarity bound of ~100 TeV. These findings are almost completely independent of the details of the portal between the dark sector and the Standard Model.

## **Summary**

**Authors:** ASADI, Pouya (Massachusetts Institute of Technology); KUFLIK, Eric (Hebrew University of Jerusalem); KRAMER, Eric David (Hebrew University of Jerusalem); RIDGWAY, Gregory (Massachusetts Institute of Technology); SLATYER, Tracy; SMIRNOV, Juri (Ohio State University, CCAPP)

Presenter: ASADI, Pouya (Massachusetts Institute of Technology)

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