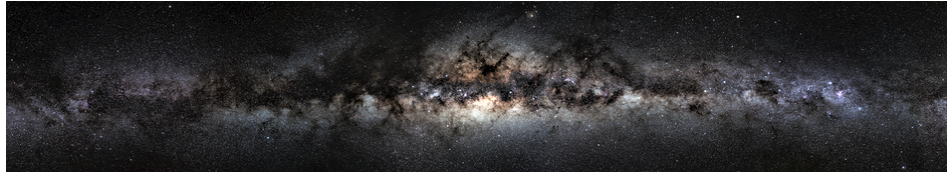


# Dark Sectors of Astroparticle Physics (AstroDark-2021): Axions, Neutrinos, Black Holes and Gravitational Waves



Contribution ID: 41

Type: Oral

## Ionization and Thermal Histories with Dark Matter Energy Injection

*Tuesday, 7 December 2021 11:38 (18 minutes)*

Measurements of the cosmic microwave background, the Lyman-Alpha forest and future 21-cm results can set significant constraints on dark matter annihilation or decay. To obtain such limits, a good understanding of how dark matter energy injection affects the ionization and thermal history of the universe is crucial. In this talk, I will present an open-source code package called DarkHistory, which will compute these histories efficiently and accurately. I will then discuss how this code can be used to obtain state-of-the-art constraints on dark matter annihilation and decay from the evolution of the intergalactic medium temperature deduced from Lyman-Alpha forest observations.

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**Session Classification:** Parallel 1: Axions and Other Dark Matter Particles