

Publication list

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- Apr. 2021 Pablo Villanueva-Domingo and Kiyotomo Ichiki.
21 cm Forest Constraints on Primordial Black Holes.
[arXiv:2104.10695](https://arxiv.org/abs/2104.10695)
- Mar. 2021 Pablo Villanueva-Domingo, Olga Mena and Sergio Palomares-Ruiz.
A brief review on primordial black holes as dark matter.
[arXiv:2103.12087](https://arxiv.org/abs/2103.12087)
Submitted to *Frontiers in Astronomy and Space Sciences - section Cosmology* as an invited contribution.
- Jan. 2021 Pablo Villanueva-Domingo and Francisco Villaescusa-Navarro.
Removing Astrophysics in 21 cm maps with Neural Networks.
The Astrophysical Journal, 907(1):44, 2021; [arXiv:2006.14305](https://arxiv.org/abs/2006.14305)
- Jun. 2020 Laura Lopez-Honorez, Olga Mena, Sergio Palomares-Ruiz, Pablo Villanueva-Domingo and Samuel J. Witte.
Variations in fundamental constants at the cosmic dawn.
JCAP, 2006(06):026, 2020; [arXiv:2004.00013](https://arxiv.org/abs/2004.00013)
- Apr. 2020 Pablo Villanueva-Domingo, Olga Mena and Jordi Miralda-Escudé.
Maximum amplitude of the high-redshift 21-cm absorption feature.
Phys. Rev. D 101(8):083502, 2020; [arXiv:1912.09488](https://arxiv.org/abs/1912.09488)
- Aug. 2019 Olga Mena, Sergio Palomares-Ruiz, Pablo Villanueva-Domingo, and Samuel J. Witte.
Constraining the primordial black hole abundance with 21-cm cosmology.
Phys. Rev., D100(4):043540, 2019; [arXiv:1906.07735](https://arxiv.org/abs/1906.07735)
- Jan. 2019 Laura Lopez-Honorez, Olga Mena and Pablo Villanueva-Domingo.
Dark Matter microphysics and 21 cm observations.
Phys. Rev., D99(2):023522, 2019; [arXiv:1811.02716](https://arxiv.org/abs/1811.02716)
- Jun. 2018 Miguel Escudero, Laura Lopez-Honorez, Olga Mena, Sergio Palomares-Ruiz and Pablo Villanueva-Domingo.
A fresh look into the interacting dark matter scenario.
JCAP, 1806(06):007, 2018; [arXiv:1803.08427](https://arxiv.org/abs/1803.08427)
- May 2018 Samuel Witte, Pablo Villanueva-Domingo, Stefano Gariazzo, Olga Mena and Sergio Palomares-Ruiz.
EDGES result versus CMB and low-redshift constraints on ionization histories.
Phys. Rev., D97(10):103533, 2018; <https://arxiv.org/abs/1804.03888>
- Apr. 2018 Pablo Villanueva-Domingo, Stefano Gariazzo, Nickolay Y. Gnedin and Olga Mena.
Was there an early reionization component in our universe?
JCAP, 1804(04):024, 2018; [arXiv:1712.02807](https://arxiv.org/abs/1712.02807)
- Jan. 2018 Pablo Villanueva-Domingo, Nickolay Y. Gnedin, and Olga Mena.
Warm Dark Matter and Cosmic Reionization.
The Astrophysical Journal, 852(2):139, 2018; [arXiv:1708.08277](https://arxiv.org/abs/1708.08277)

Nov. 2017 Laura Lopez-Honorez, Olga Mena, Sergio Palomares-Ruiz and Pablo Villanueva-Domingo.
Warm dark matter and the ionization history of the Universe.
[Phys. Rev., D96\(10\):103539, 2017; arXiv:1703.02302](#)