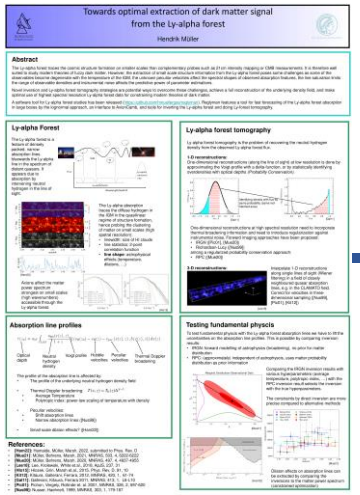

Ly-alpha Forest Tomography

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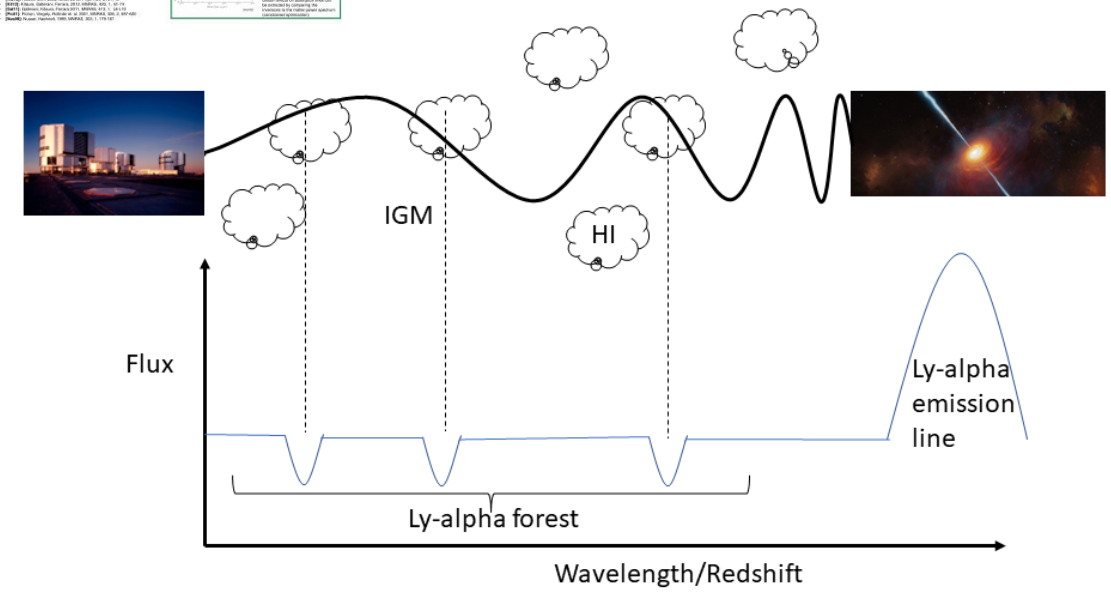
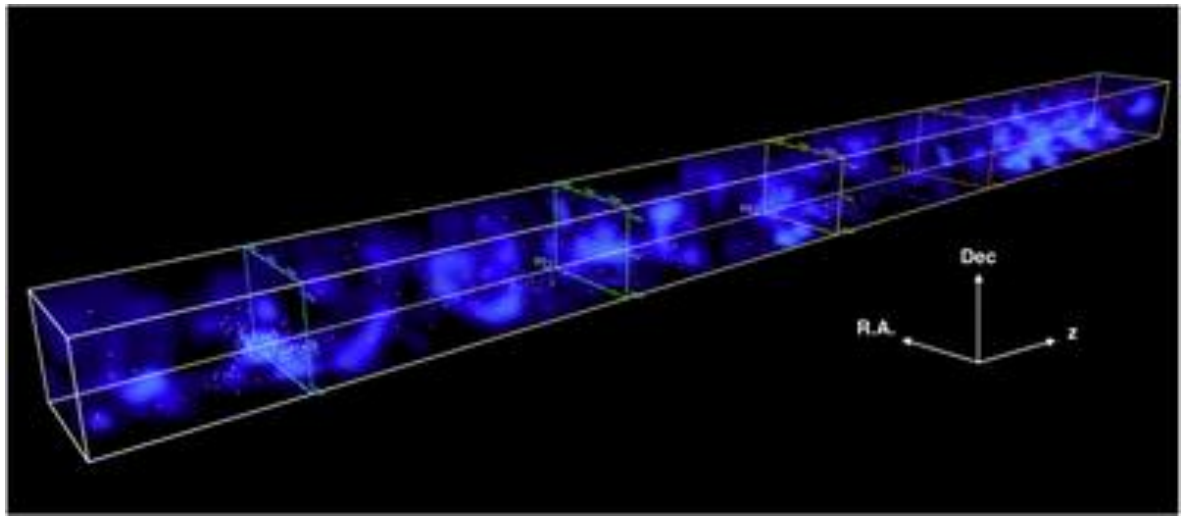
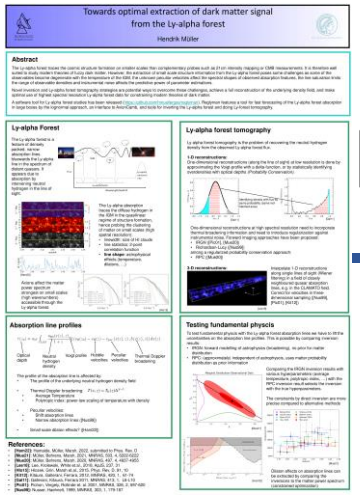
für Radioastronomie





Lee, Krolewski, White et.al. 2018

By inverting the Ly-alpha forest absorption (Ly-alpha forest tomography) we trace the cosmic web in large boxes with an unprecedented longitudinal resolution (~10kpc)



Fundamental Physics with the Ly-alpha Forest

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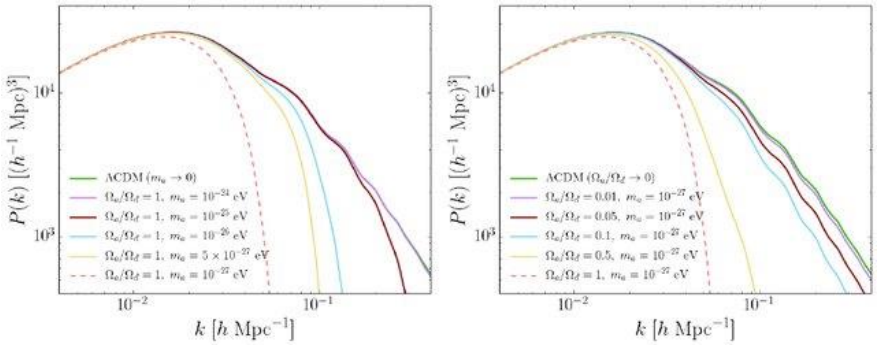
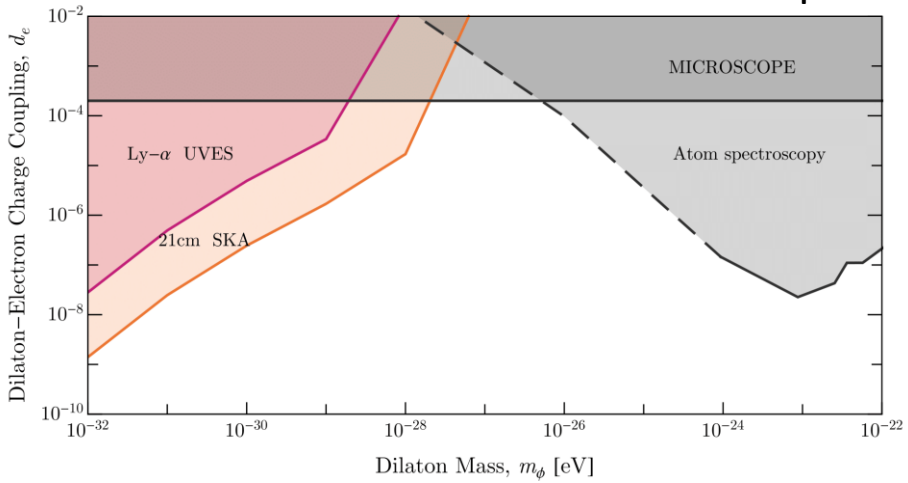


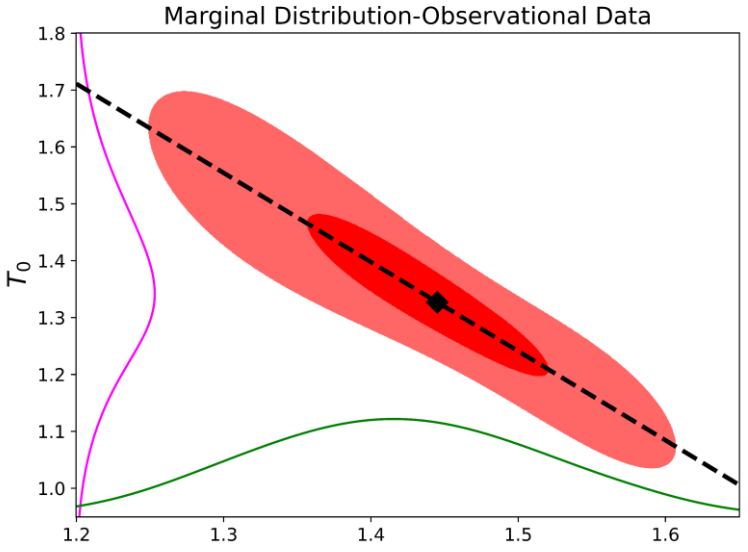
Small scales accessible to the Ly-alpha forest are most interesting for axions!!!

Hlozek, Grin, Marsh et. al. 2015

Testing tomographic reconstructions against the matter power spectrum reveals the effect of dilatons on the line shape.



Hamaide, Müller, Marsh et.al. 2022



Comparing various reconstruction methods with different priors produces stronger constraints on the thermal evolution of the IGM than previous methods.

Müller, Behrens, Marsh et.al. 2021