

Recovering BAO in a SKA intensity mapping survey



Instituto de
Física
Teórica
UAM-CSIC

Cosmology From Home 2021 (05-16/07/2021)

Speaker: Bernhard Vos Ginés

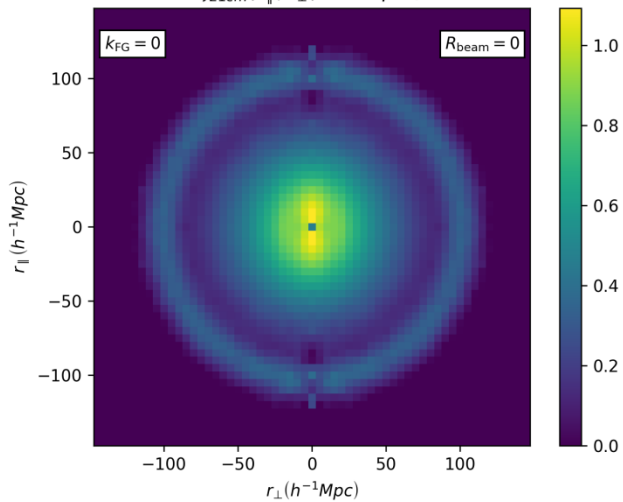
1st year PhD Student

Universidad Autónoma de Madrid (UAM), Spain

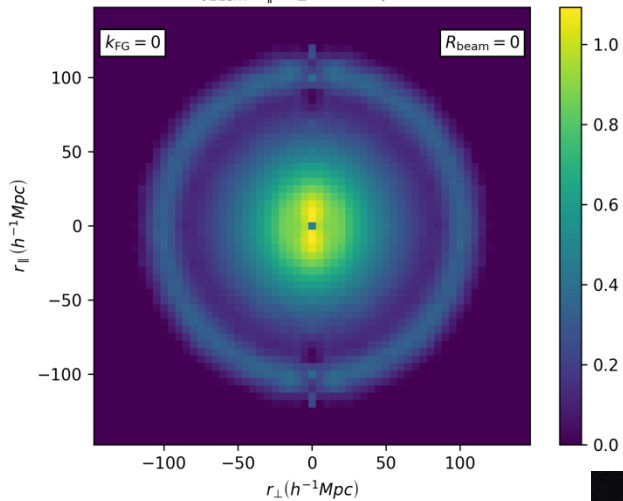
Publication available in ArXiv: S. Avila & B. Vos-Ginés et al:

<https://arxiv.org/abs/2105.10454>

$$r^2 \xi_{21cm}(r_{\parallel}, r_{\perp}) \text{ m}k^2 \text{Mpc}^2 / h^2$$



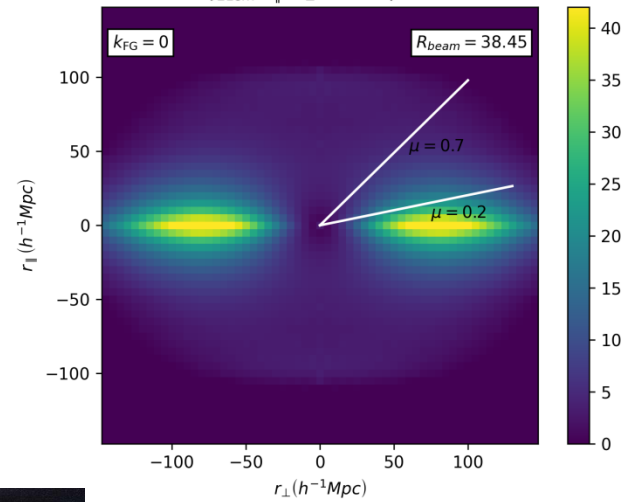
$$r^2 \xi_{21\text{cm}}(r_{\parallel}, r_{\perp}) \text{ m}k^2 \text{Mpc}^2 / h^2$$



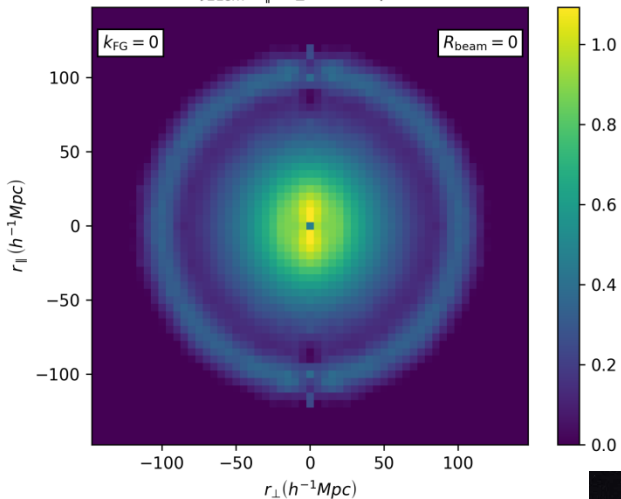
Telescope beam



$$r^2 \xi_{21\text{cm}}(r_{\parallel}, r_{\perp}) \text{ m}k^2 \text{Mpc}^2 / h^2$$



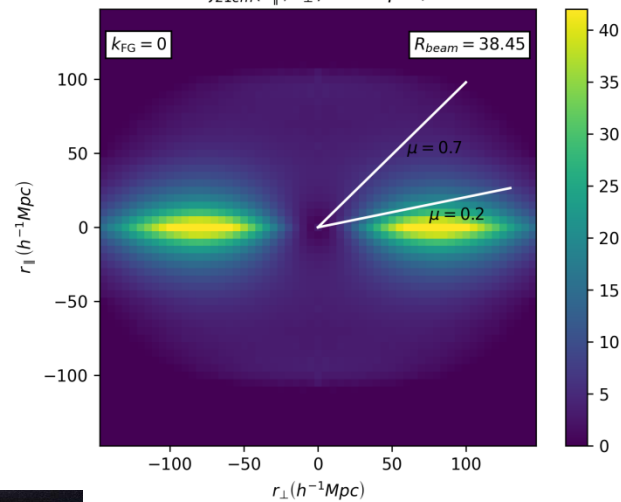
$$r^2 \xi_{21\text{cm}}(r_{\parallel}, r_{\perp}) \text{ mk}^2 \text{Mpc}^2 / h^2$$



Telescope beam



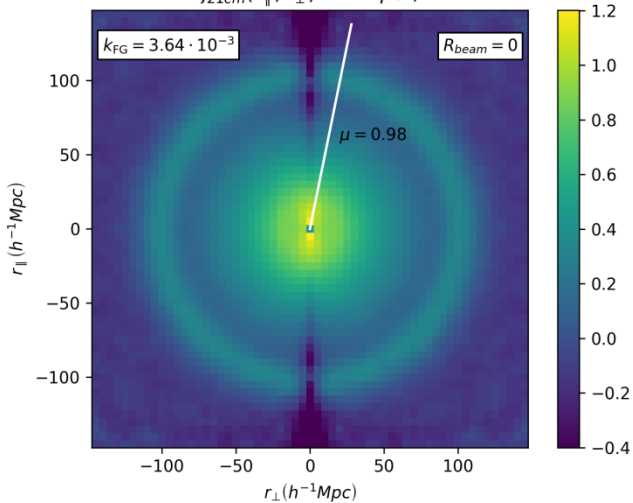
$$r^2 \xi_{21\text{cm}}(r_{\parallel}, r_{\perp}) \text{ mk}^2 \text{Mpc}^2 / h^2$$



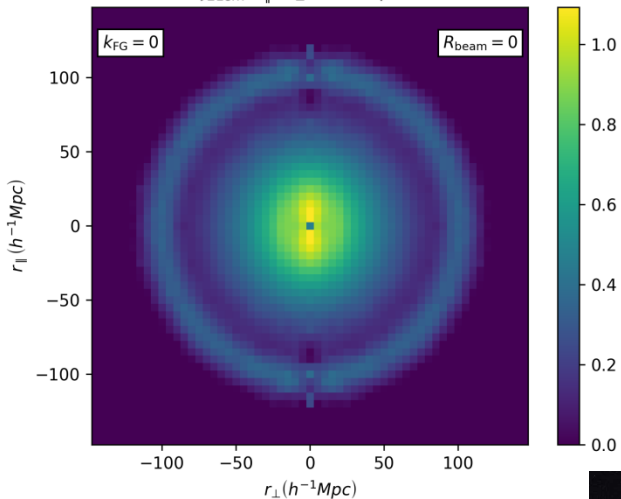
Foregrounds



$$r^2 \xi_{21\text{cm}}(r_{\parallel}, r_{\perp}) \text{ mk}^2 \text{Mpc}^2 / h^2$$



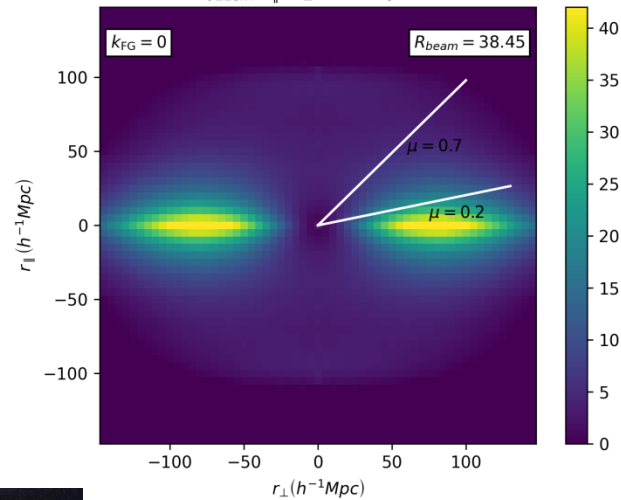
$$r^2 \xi_{21\text{cm}}(r_{\parallel}, r_{\perp}) \text{ mK}^2 \text{Mpc}^2 / h^2$$



Telescope beam



$$r^2 \xi_{21\text{cm}}(r_{\parallel}, r_{\perp}) \text{ mK}^2 \text{Mpc}^2 / h^2$$

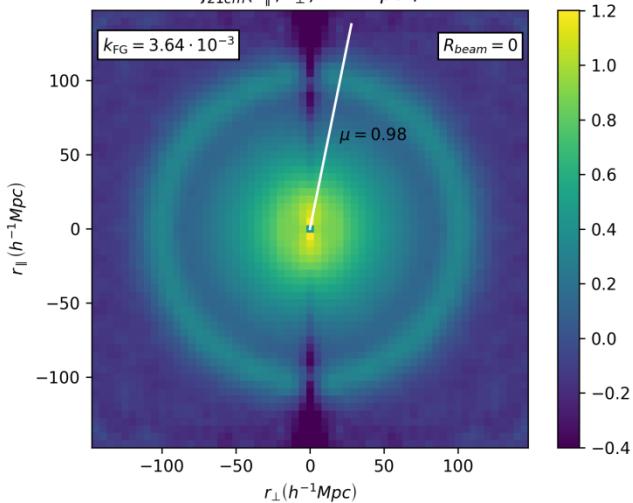


Foregrounds

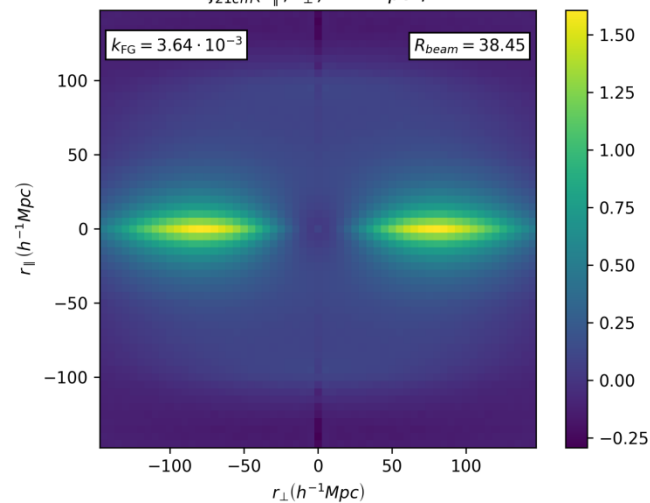


Telescope beam +
Foregrounds

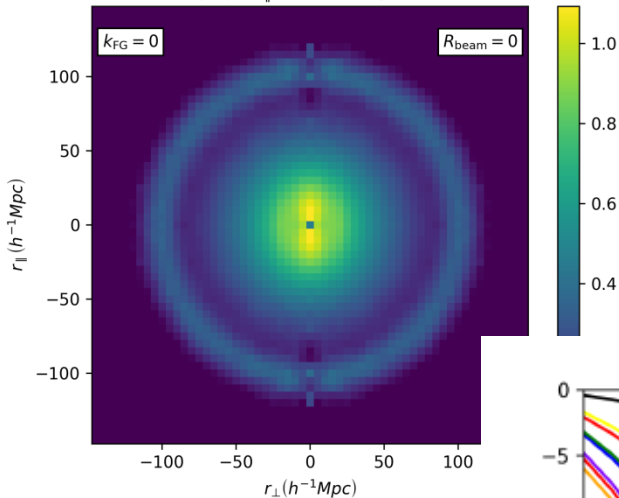
$$r^2 \xi_{21\text{cm}}(r_{\parallel}, r_{\perp}) \text{ mK}^2 \text{Mpc}^2 / h^2$$



$$r^2 \xi_{21\text{cm}}(r_{\parallel}, r_{\perp}) \text{ mK}^2 \text{Mpc}^2 / h^2$$



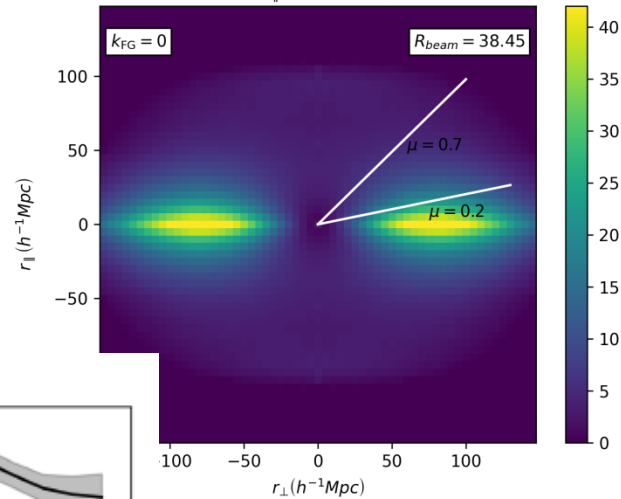
$$r^2 \xi_{21cm}(r_{\parallel}, r_{\perp}) \text{ mk}^2 \text{Mpc}^2 / h^2$$



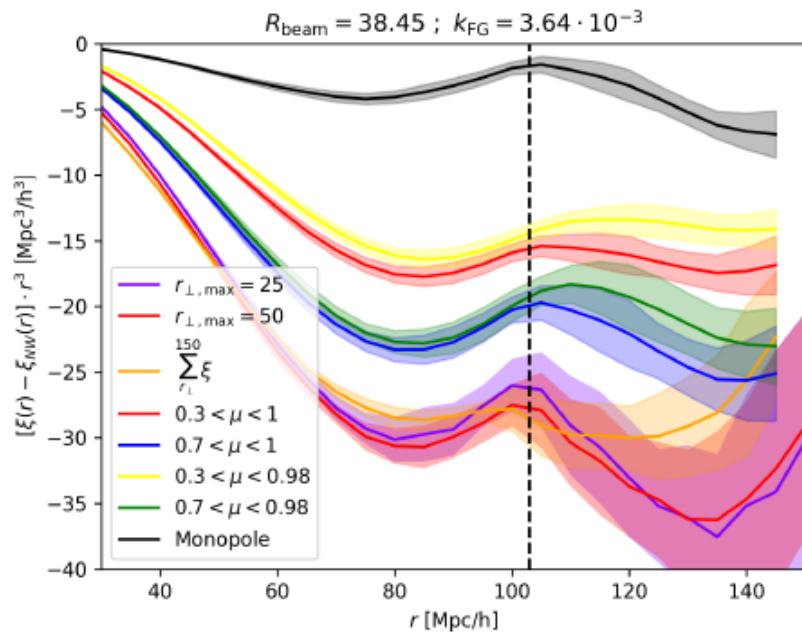
Telescope beam



$$r^2 \xi_{21cm}(r_{\parallel}, r_{\perp}) \text{ mk}^2 \text{Mpc}^2 / h^2$$

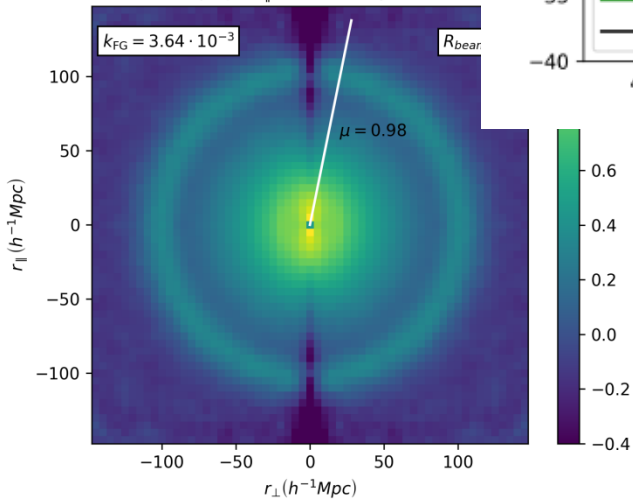


Foregrounds

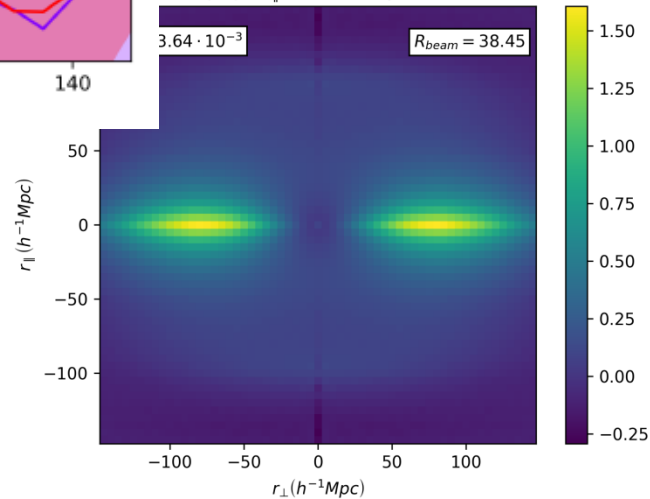


Telescope beam +
Foregrounds

$$r^2 \xi_{21cm}(r_{\parallel}, r_{\perp}) \text{ mk}^2 \text{Mpc}^2 / h^2$$



$$r^2 \xi_{21cm}(r_{\parallel}, r_{\perp}) \text{ mk}^2 \text{Mpc}^2 / h^2$$



Thanks!

← Foregrounds

→ Telescope beam

