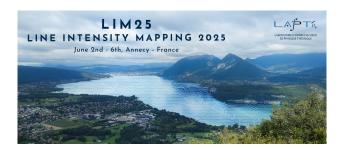ID de Contribution: **80**　　　　　　　　　　　　　　　　　　　Type: **Non spécifié**

COMAP data analysis: Lessons learned and future plans

mardi 3 juin 2025 10:10 (15 minutes)

This talk reflects on the present and future of data analysis techniques in line intensity mapping, with examples from COMAP. COMAP continues to integrate down and will soon achieve a sensitivity consistent with the level of our fiducial models, but proper handling of systematics and a robust data model will be vital in this effort. The Season 2 COMAP results utilized PCA filtering in order to remove standing wave systematics in the data, and we reflect on our experience with this, and other filtering techniques. We talk about the complications around PCA and PCA-like non-linear filtering, what biases they induce in our estimates, and how this can be mitigated. One potential solution, heavily employed in the CMB field, is to perform global and join analysis over many or all parameters by sampling and marginalizing, which provides more robust and unbiased estimators.

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