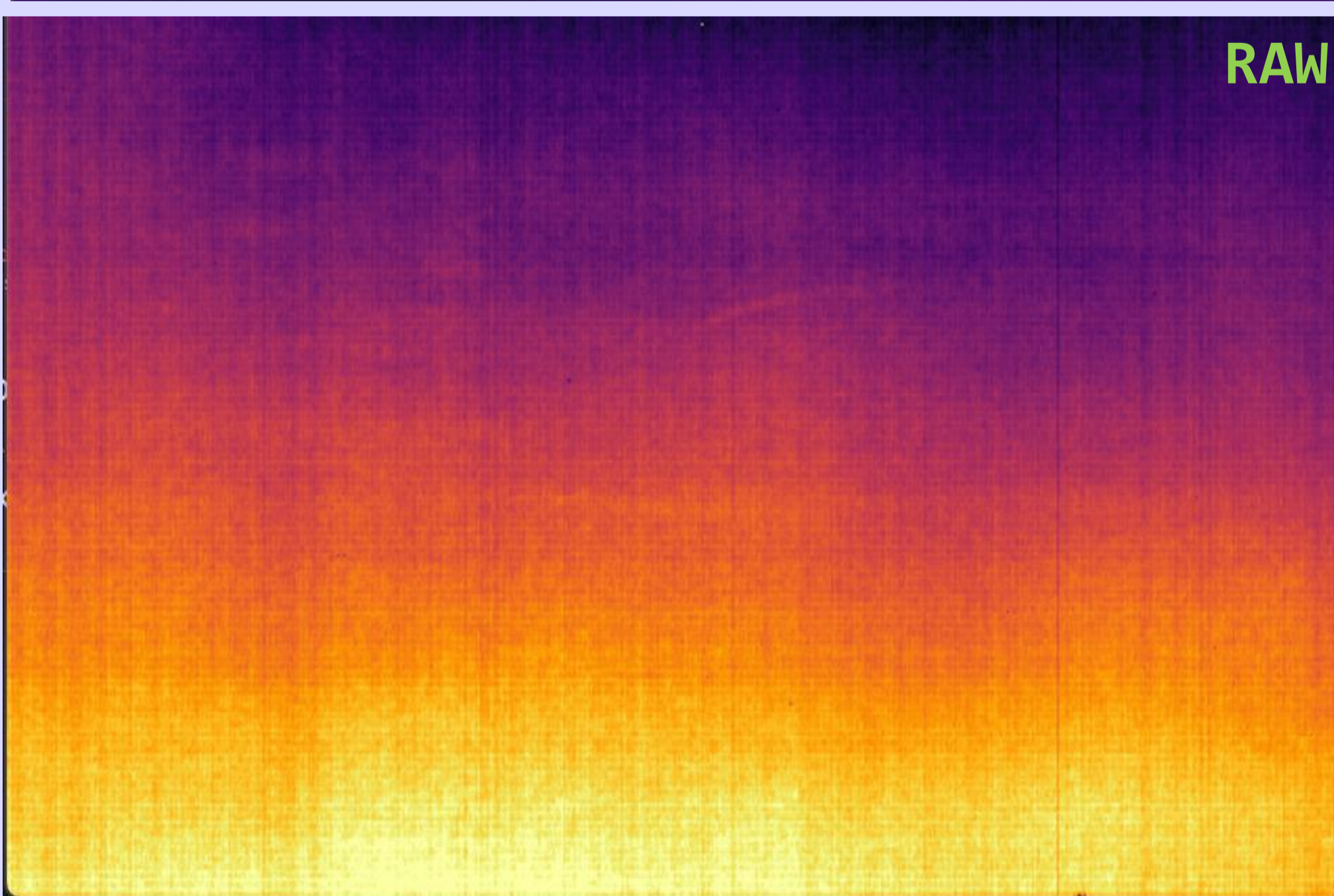
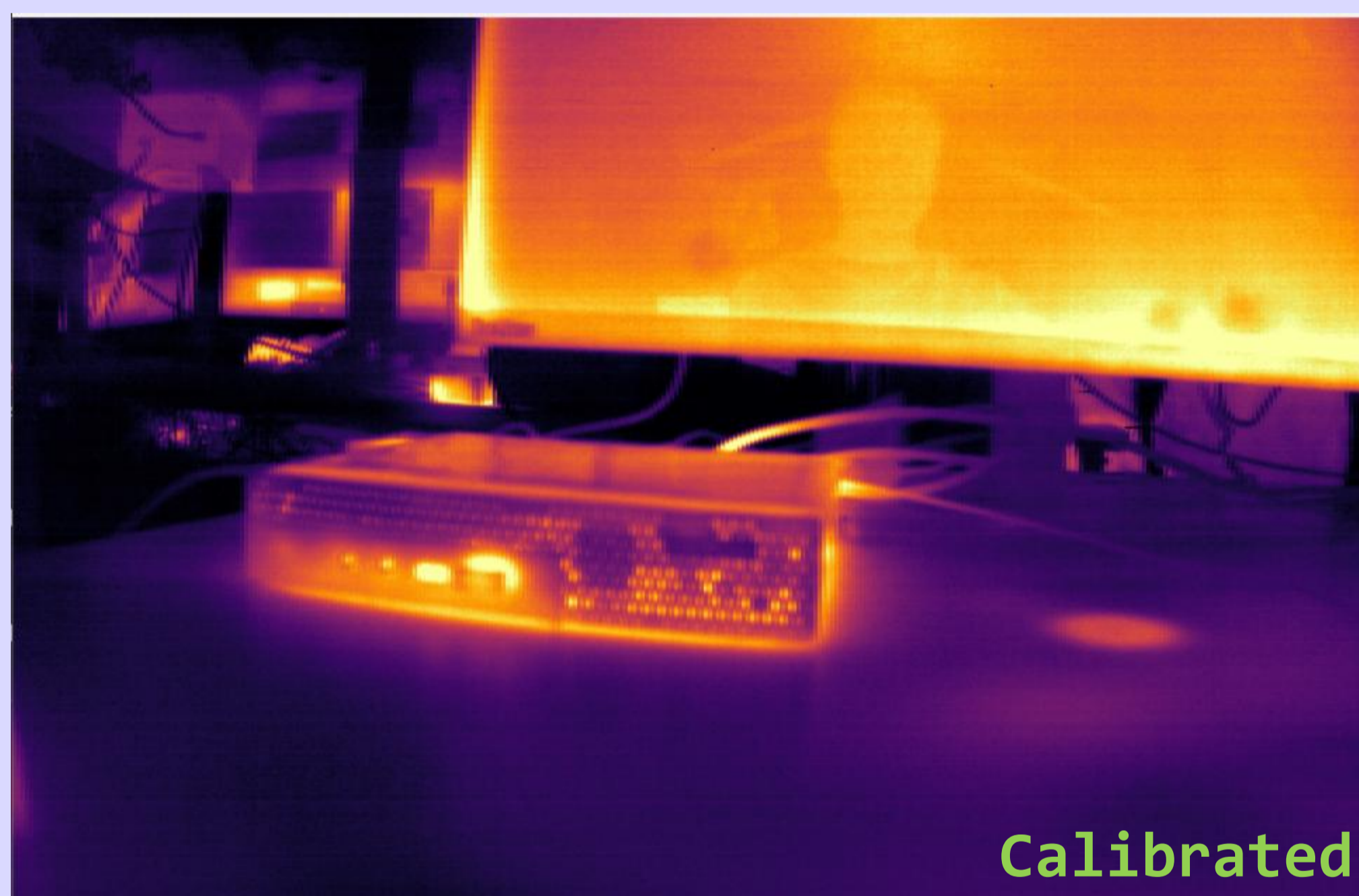


# Cloud-based & Real-time Visualization of Data from Mobile Imaging Sensors



## Purpose and aim

Develop a calibration framework for a shutterless LWIR microbolometer array thermal camera (640×480 px) by addressing temperature-induced drift and spatial non-uniformity without relying on mechanical shutters.

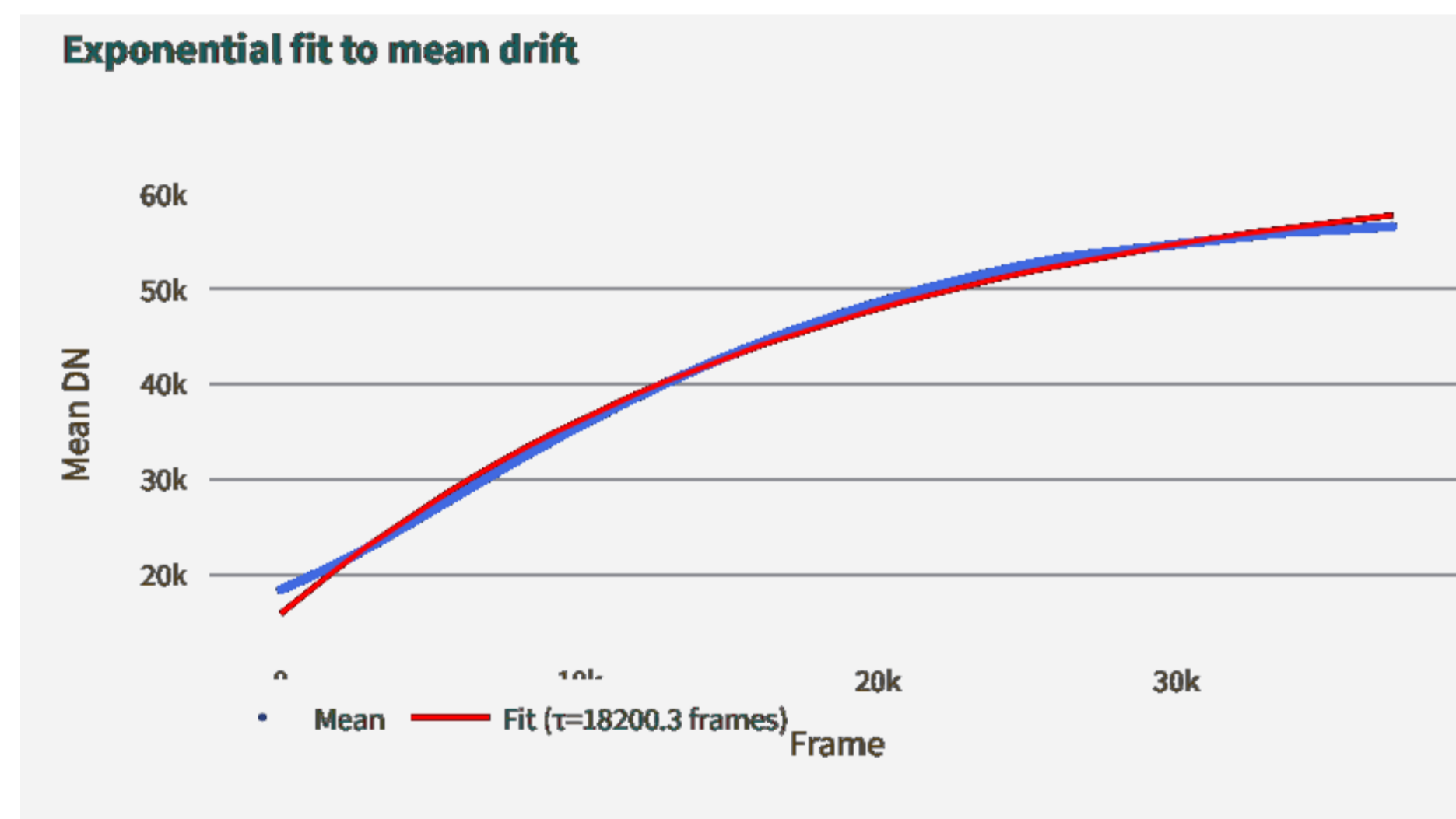
Design and implement a scene-based non-uniformity correction (SBNUC) algorithm capable of adapting to dynamic thermal conditions in real time and model the sensor's temporal drift behavior to enable stable and accurate thermal imaging during warm-up and steady-state operation.

Finally, deploy the system within a cloud-based architecture for real-time visualization, control, and *remote calibration* of streaming thermal data.

## Preliminary Results

Preliminary results showed that the temporal response of the microbolometer array is dominated by a deterministic thermal drift, with the global mean signal exhibiting an exponential convergence toward a steady-state equilibrium.

These results support the feasibility of scene-based non-uniformity correction (SBNUC) methods combined with temporal drift modeling for real-time, shutterless thermal imaging.



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