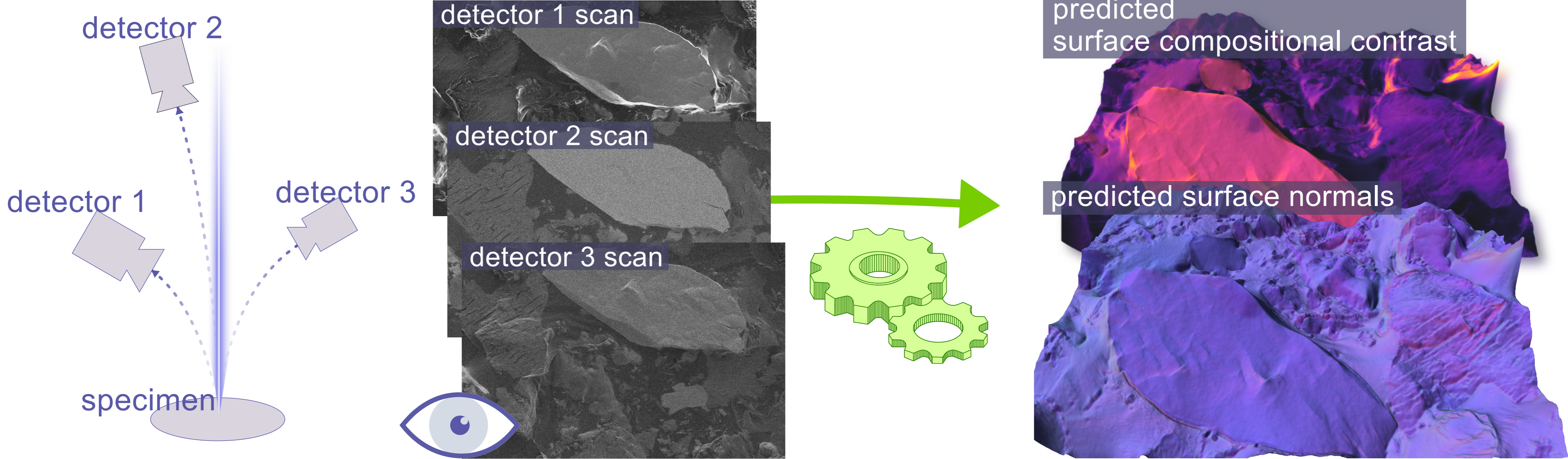
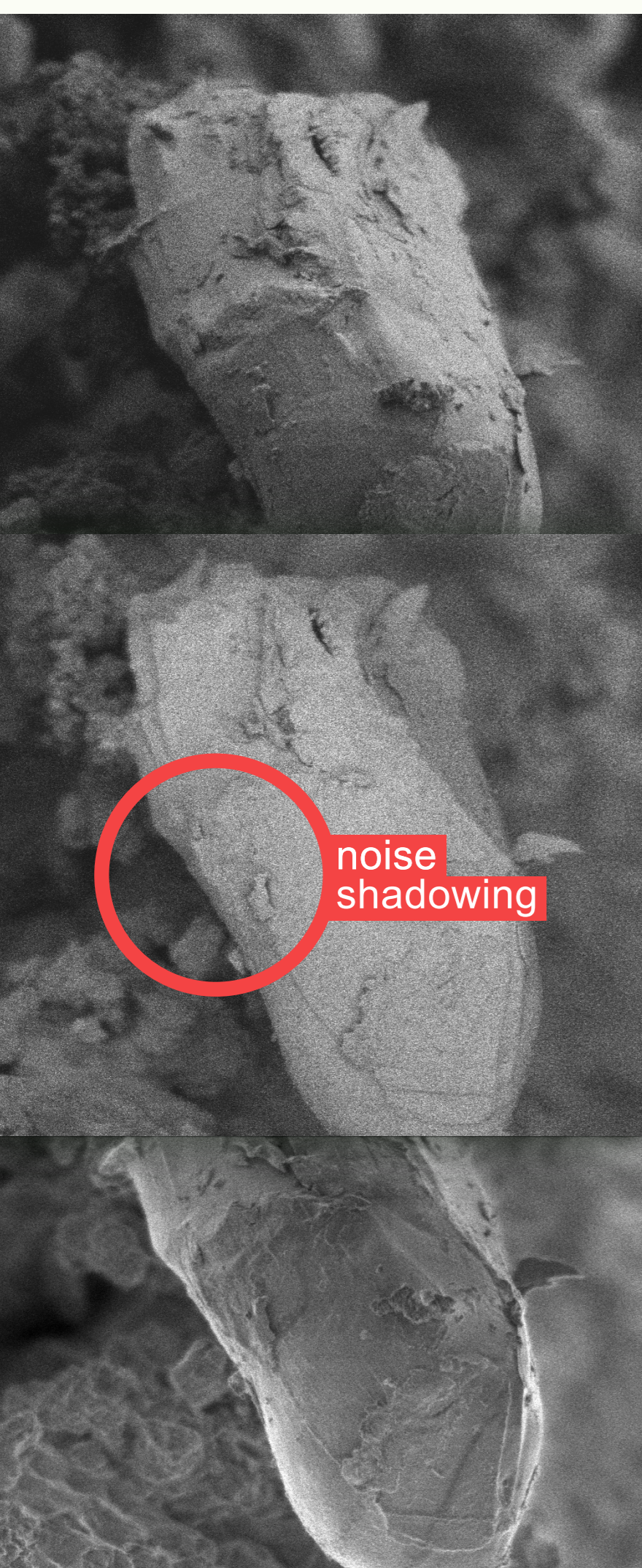


# Intrinsic Image Component Decomposition in Scanning Electron Microscopy

Author: Bc. Marek Konečný Supervisor: prof. Ing. Martin Čadík, PhD.

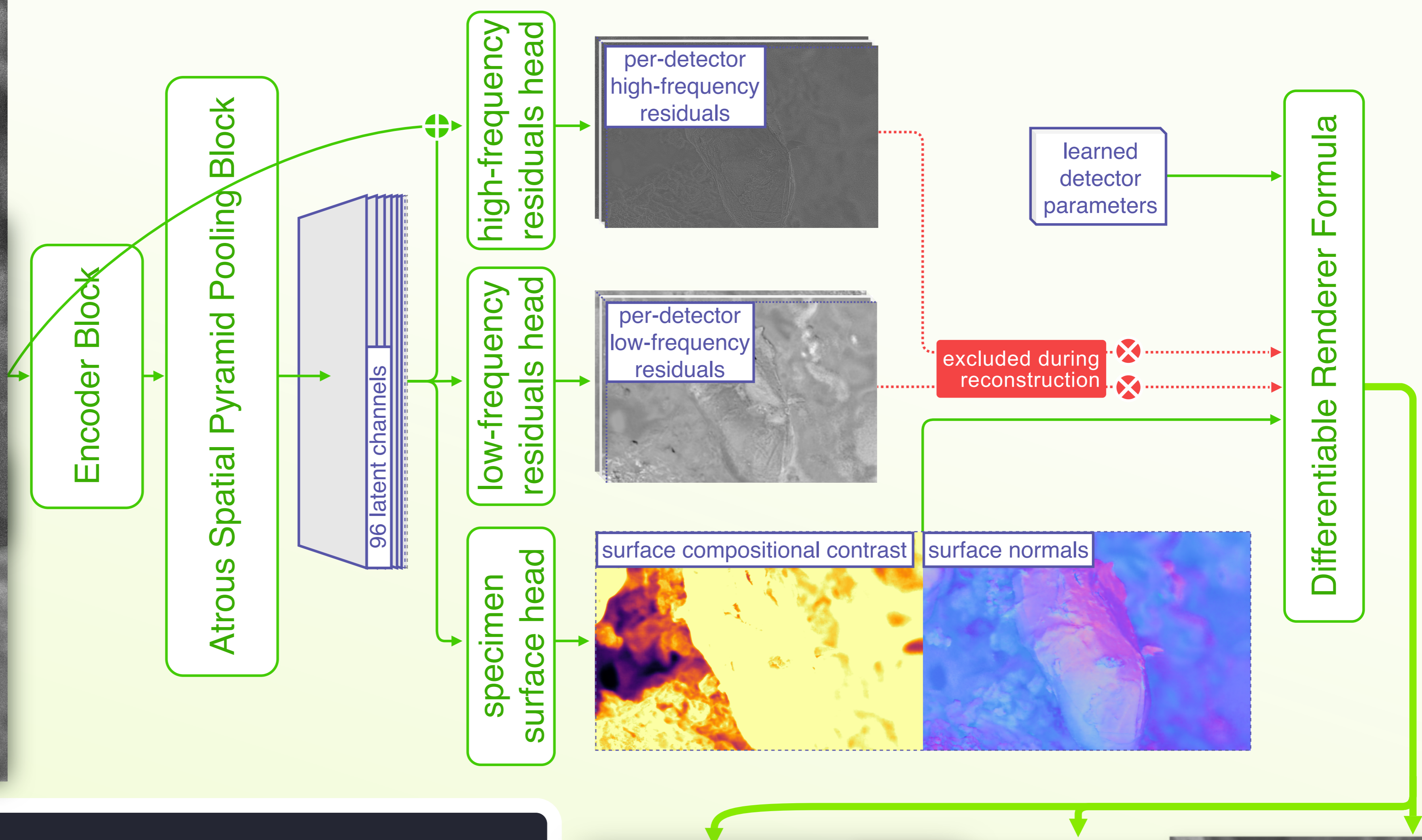


**Use Cases** 3D Surface Reconstruction Material Analysis Image Denoising Image Enhancement



## Proposed CNN Architecture

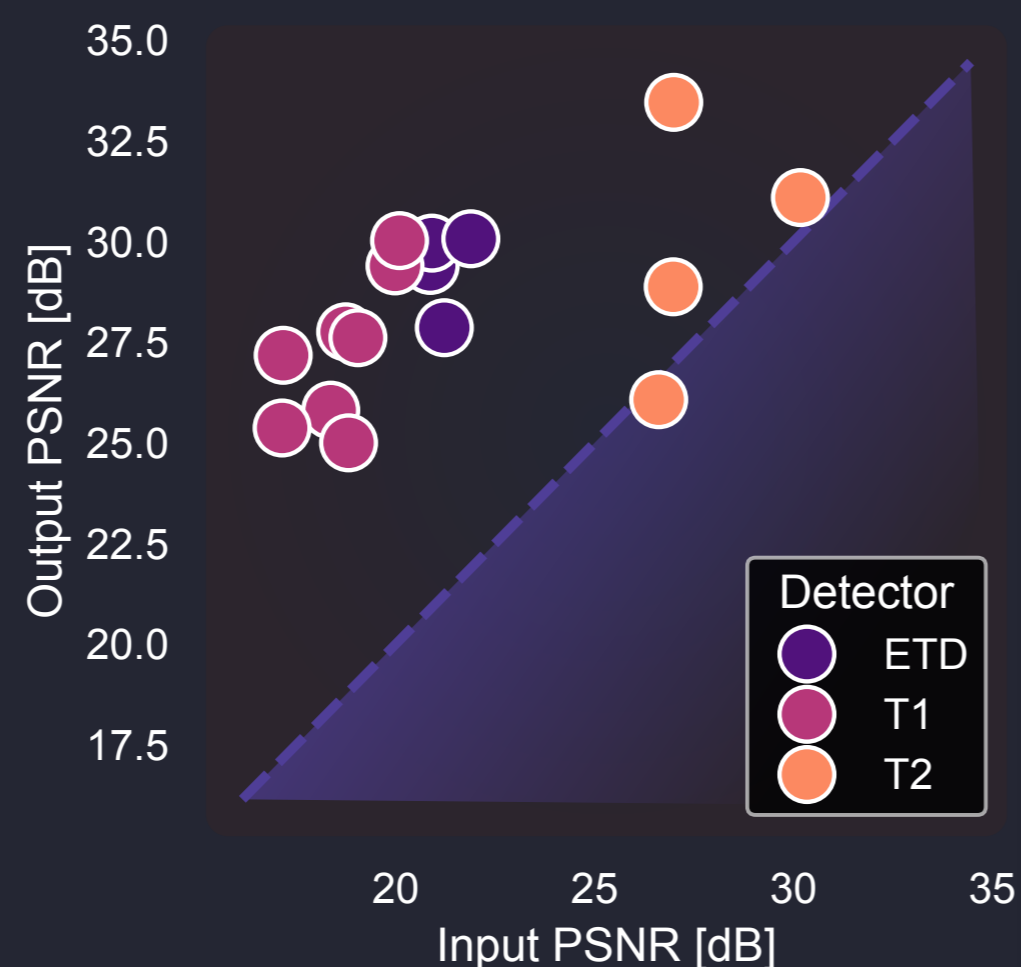
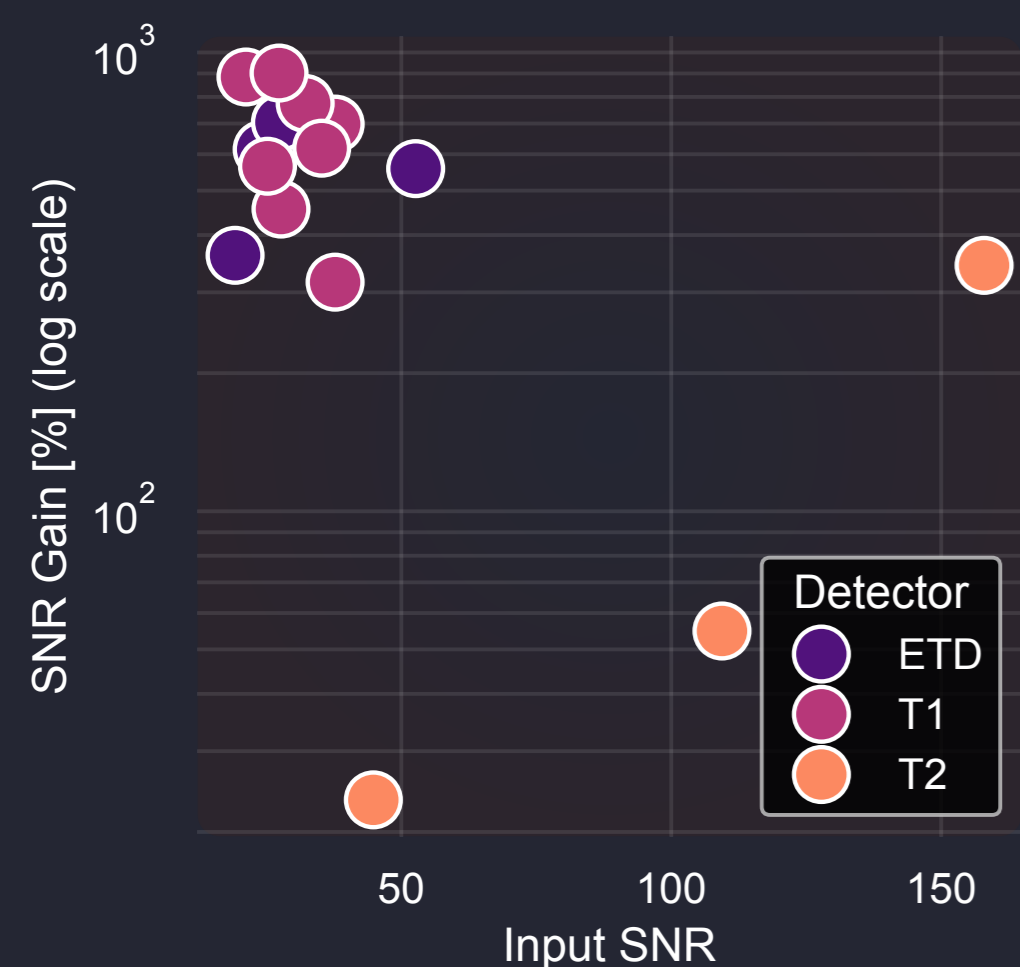
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## Evaluation

Due the unavailability of ground truth, evaluation relies on subjective quality assessment. Ongoing trials include both public participants and Thermo Fisher Scientific personnel.

Plots below visualize P/SNR gains after reconstruction with the high-frequency residuals excluded, relative to synthesized ground truth. In this scenario, the mean inter-detector SSIM measures at 0.726.



## Training Ground-Truth Synthesis

