SHIFT-INVARIANT KERNEL ADDITIVE MODELLING FOR AUDIO SOURCE SEPARATION

DELIA FANO YELA, SEBASTIAN EWERT, KEN O'HANLON, MARK SANDLER

Queen Mary University of London
centre for digital music
FAST
Spotify

TASK: RECOVER SOURCE FROM A GIVEN MIXTURE (SOURCE + NOISE) WHEN NOISE IS ACTIVE.

**HOW:** KERNEL ADDITIVE MODELLING (KAM) WITH K-NN FUNCTION BASED ON EUCLIDEAN DISTANCE

PROBLEM: SOURCE DOES NOT REPEAT IN BOTH TIME AND FREQUENCY &/OR OVERLAID WITH THE SAME NOISE.

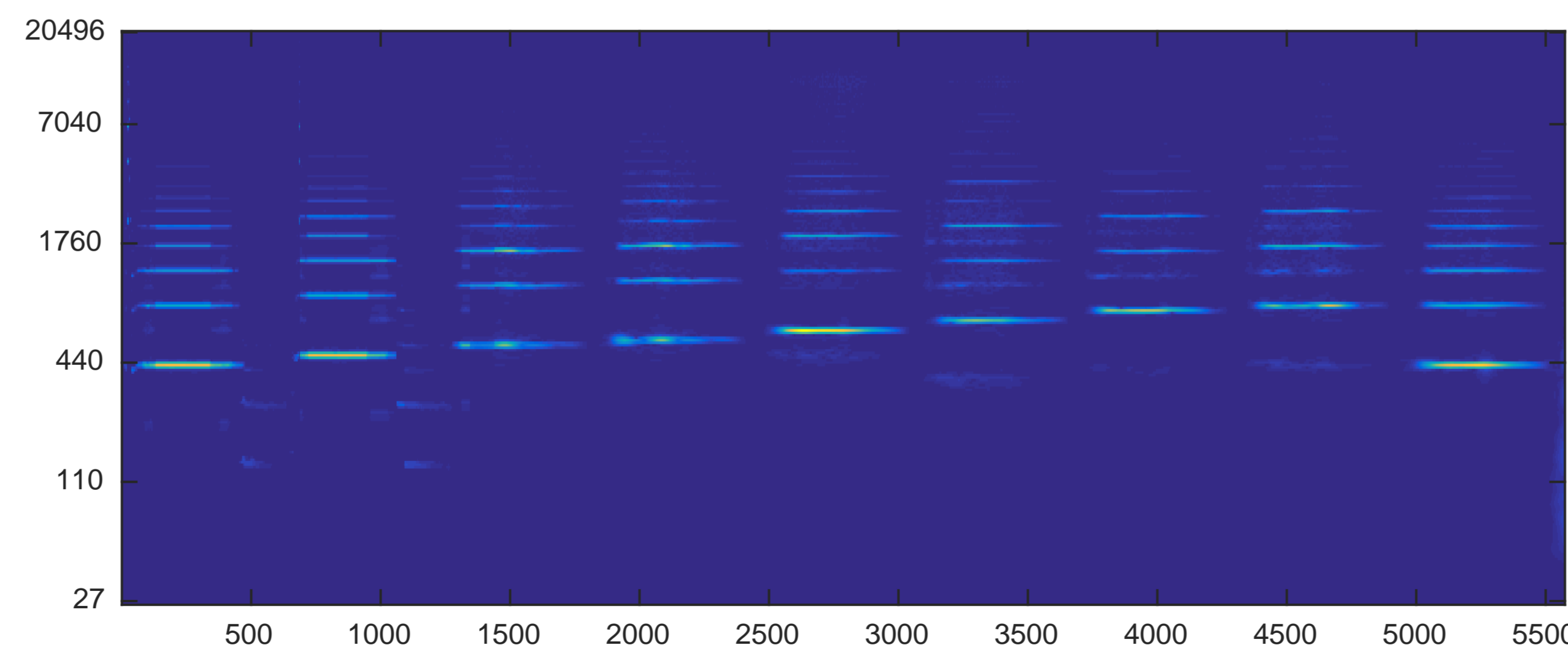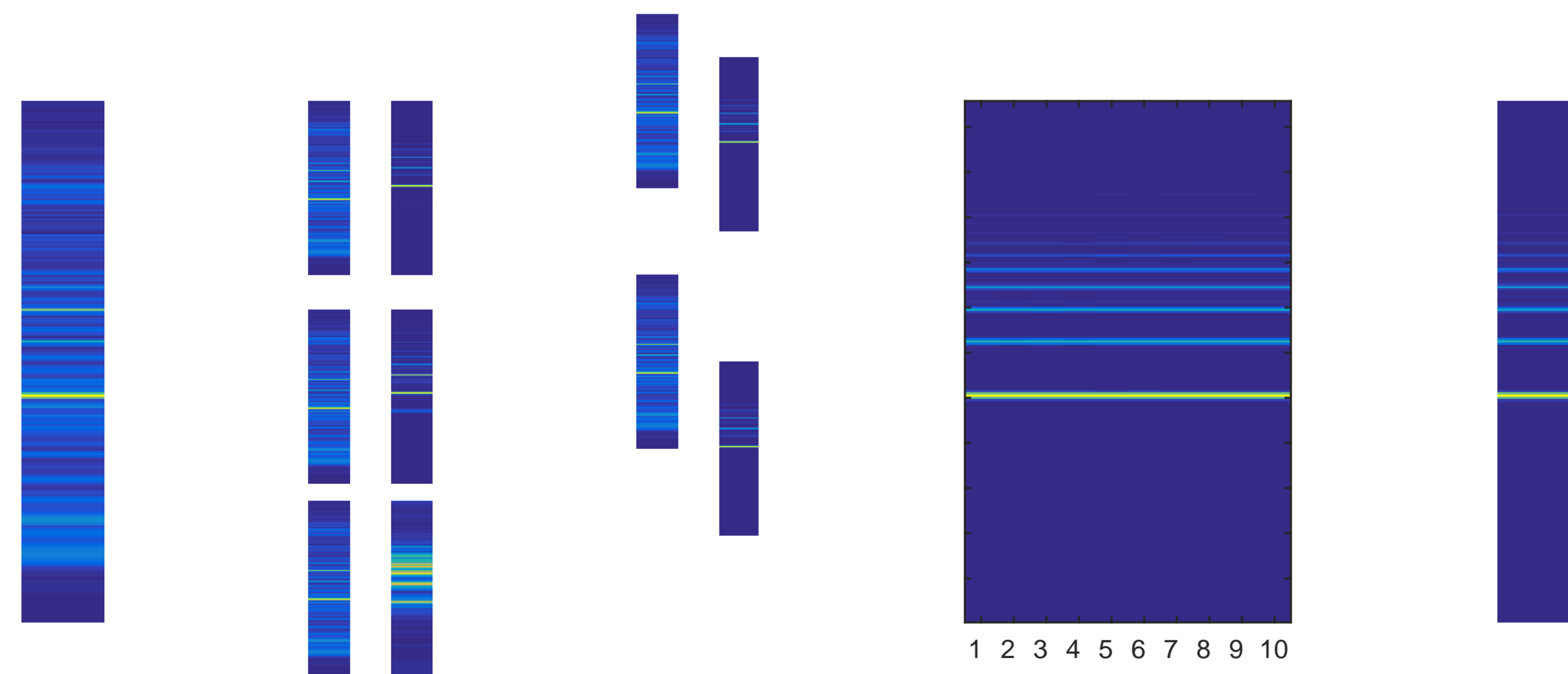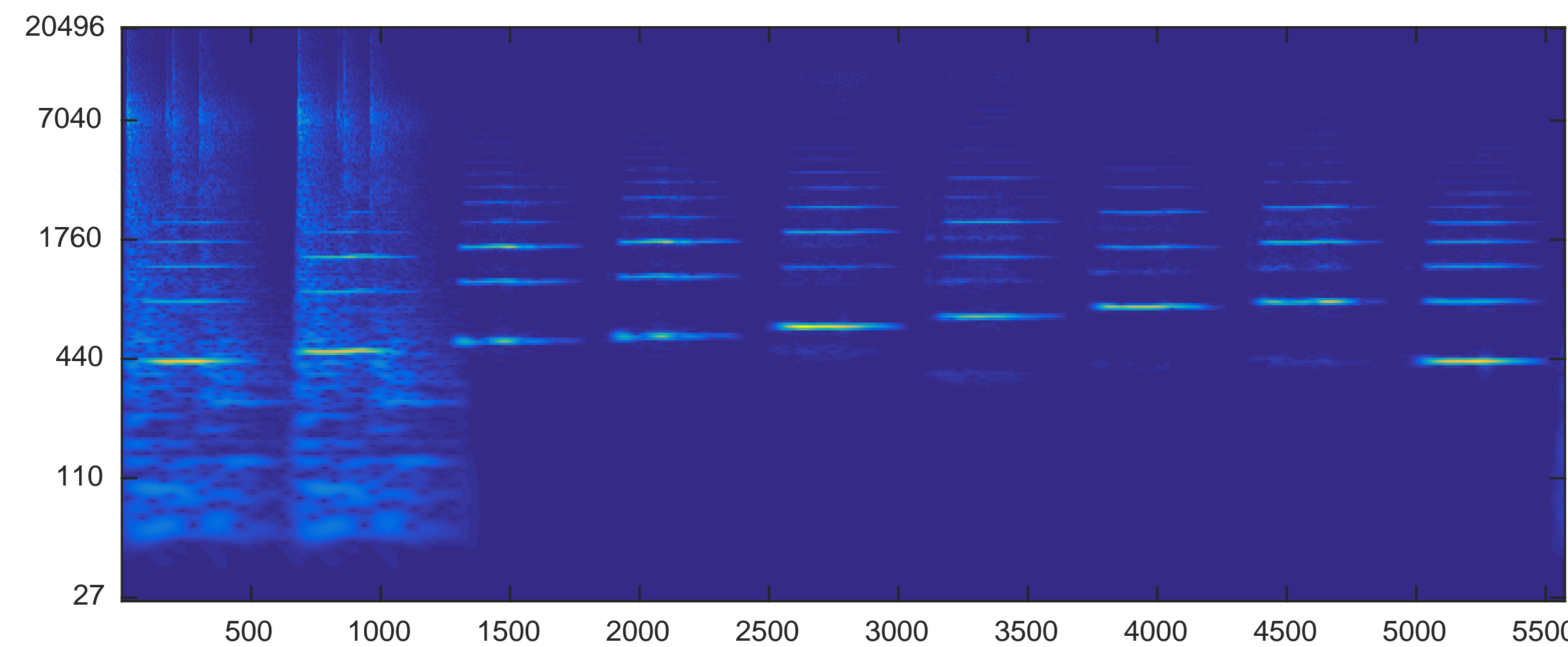**SOLUTION:** KAM WITH PROPOSED SHIFT-INVARIANT KERNEL FUNCTION.

BONUS: ACCELERATION TECHNIQUE USING 'SPECMURT' ANALYSIS AND FAST DECONVOLUTION

APPLICATION: INTERFERENCE REDUCTION; BURST-LIKE SOUNDS (E.G. COUGHS) OVERLAYS RECORDING.

KAM BASELINE
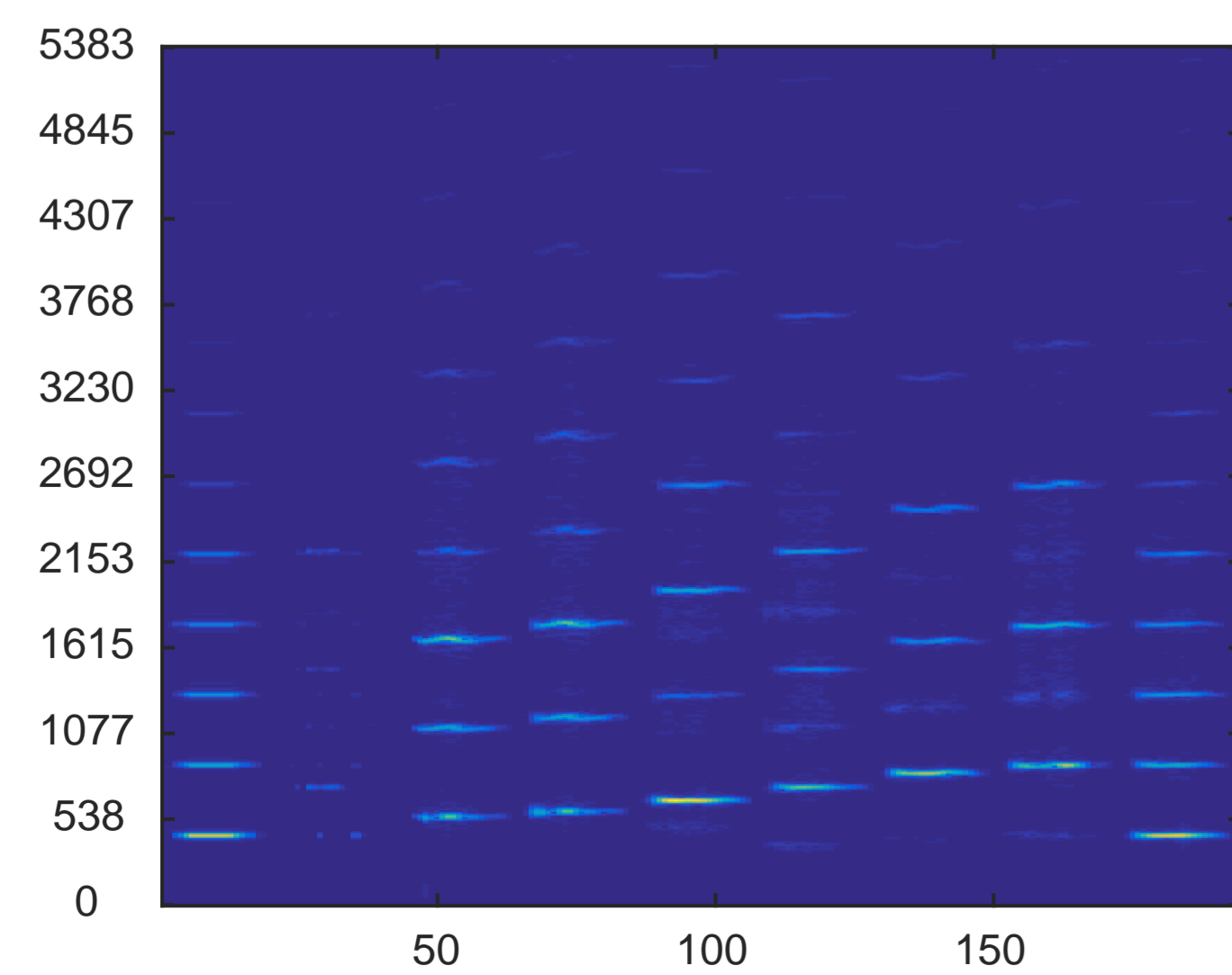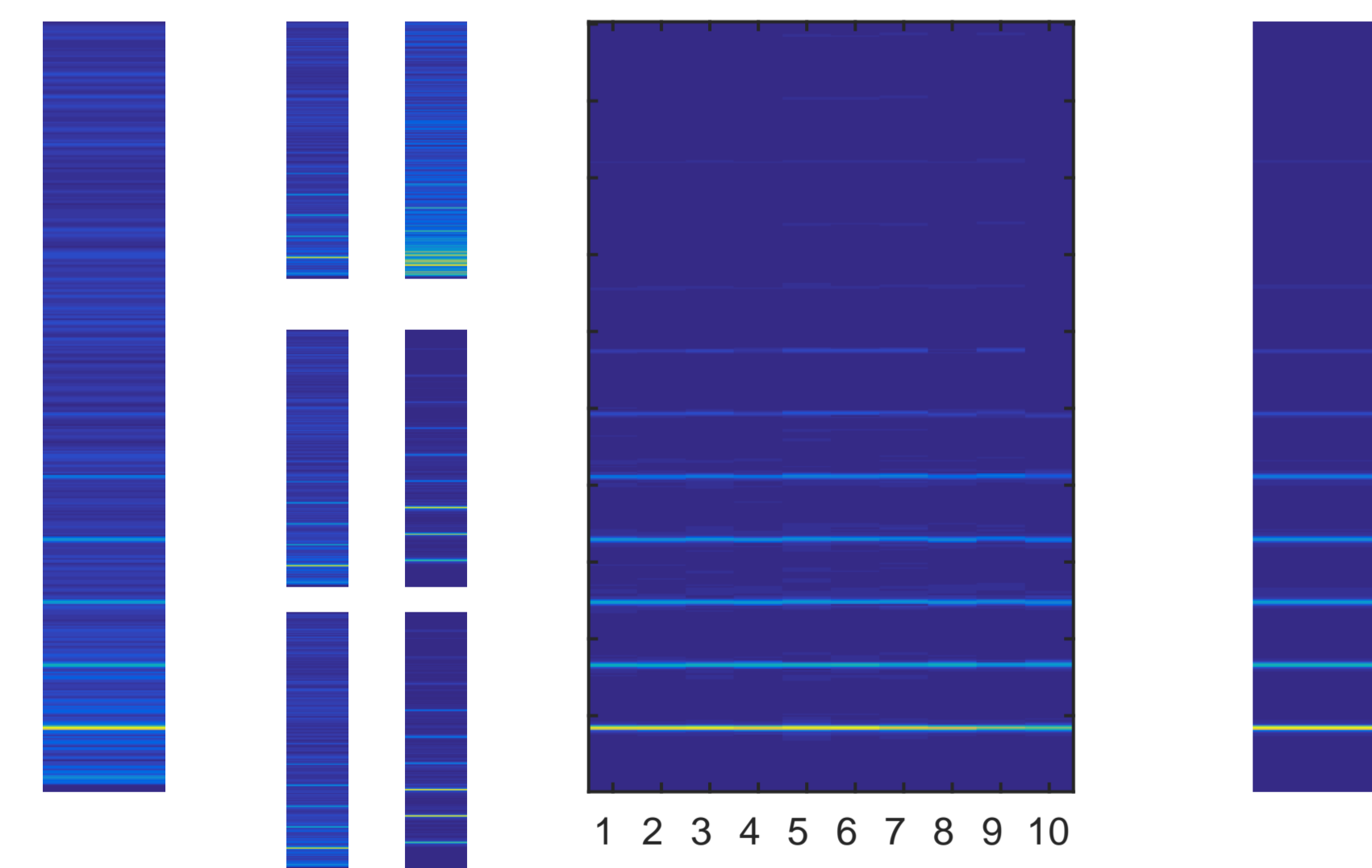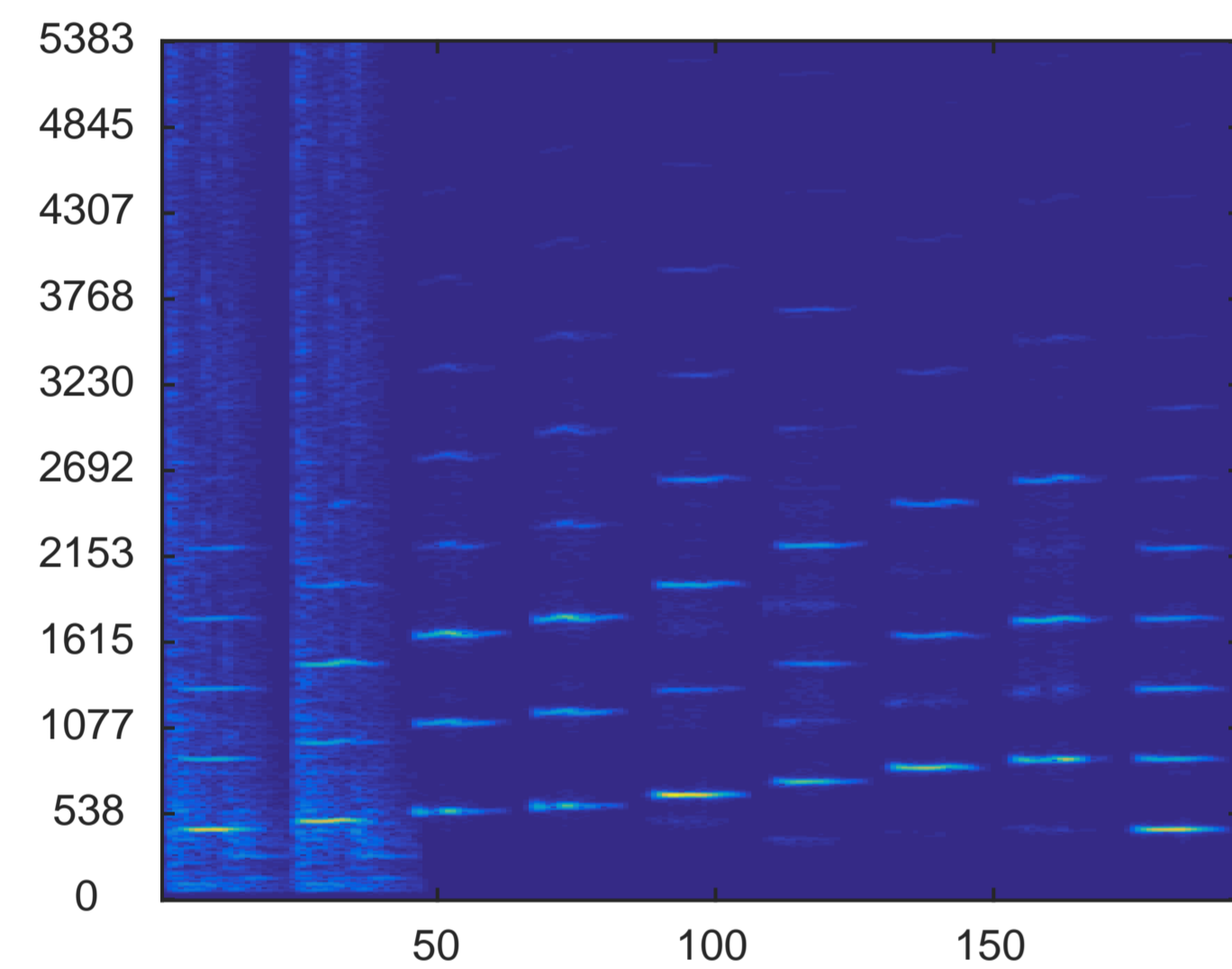
PROPOSED METHOD

ACCELERATION TECHNIQUE