Observation $\mathbf{x}$ is causal FIR filtered mixture of hidden, independent, multidimensional components:

$$
\mathbf{x}(t) = \sum_{l=0}^{L} \mathbf{H}_l \mathbf{s}(t - l).
$$

Assumptions ($\mathbf{s} = [\mathbf{s}^1; \ldots; \mathbf{s}^M]$):

- for a given $m$, $\mathbf{s}^m(t) \in \mathbb{R}^{dm}$ is i.i.d. in time $t$,
- there is at most a single Gaussian component among $\mathbf{s}^m$s,
- independent components: $I(\mathbf{s}^1, \ldots, \mathbf{s}^M) = 0$,
- undercomplete task: $\text{dim}(\mathbf{x}) > \text{dim}(\mathbf{s})$.

Goal: $\hat{\mathbf{s}}$. Specially: (i) $L = 0$: ISA $\xrightarrow{\forall d_m = 1}$ ICA, (ii) $d_m = 1$: BSD.
Former algorithm [Szabó et al., JMLR, 2007]:
\[ \text{uBSSD} = \text{time concatenation} + \text{ISA} \].
Problem: the associated ISA task is ‘high dimensional’.

Alternative (present work):
\[ \text{uBSSD} = \text{linear prediction} + \text{ISA} \].

Good news:
- no ISA dimensionality problem,
- needs smaller number of samples + can solve tasks with deeper temporal convolutions.