Code Generation for MDHs

Our OpenCL implementation is generated as **parametrized in performance-critical parameters** (a.k.a. tuning parameters):

No.	Name	Description
1	$\texttt{NUM\_WG}^{\texttt{<i>}}$	number of Work-Groups
2	$\texttt{NUM\_WI}^{\texttt{<i>}}$	number of Work-Items
3	$\texttt{LT\_SIZE}^{\texttt{<i>}}$	local tile size
4	$\texttt{PT\_SIZE}^{\texttt{<i>}}$	private tile size
5	$\texttt{MEM\_INP}^{\texttt{<LYR,b,i>}}$	memory regions for caching input
6	$\texttt{MEM\_RES}^{\texttt{<LYR,b,i>}}$	memory regions for comp. results
7	$\sigma^{\texttt{<LYR>}}_{\texttt{arr}\rightarrow\texttt{ocl}}$	mapping array to OpenCL dimensions
8	$\sigma^{\texttt{<LYR,b>}}_{\texttt{buff-do}}$	buffer dimension order
9	$\sigma^{\texttt{<LYR>}}_{\texttt{mdh-do}}$	MDH dimension order
10	CMB_RES	layer to combine results on

<i> → dimension ; <LYR> → layer ; <b> → buffer

All parameters are chosen as optimized for:

→ ***abstract device model;***
→ ***arbitrary MDH;***
→ ***arbitrary input/output characteristics.***