wave solver with PML

summer 2017

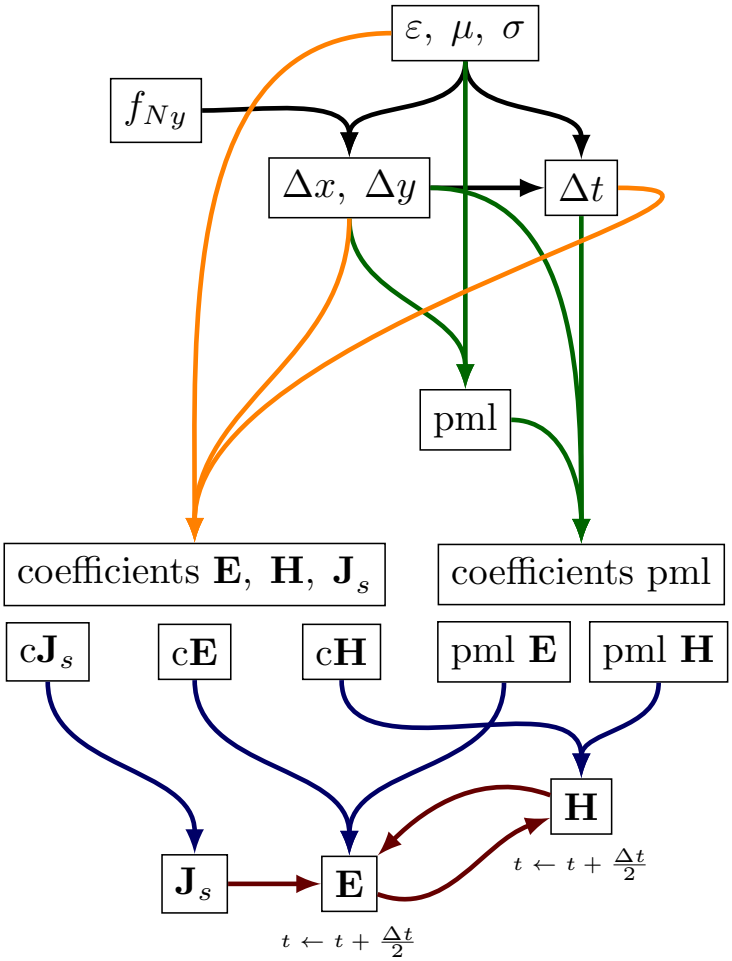

Figure 1: Main code flow.

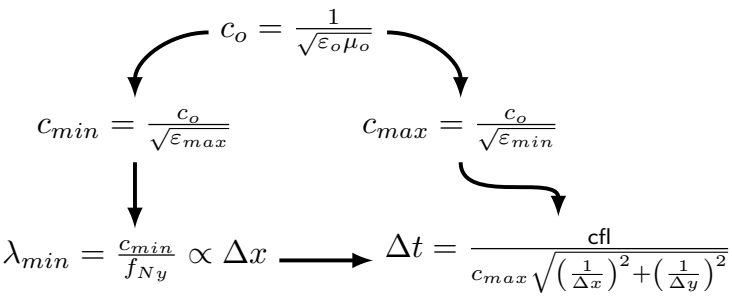

Figure 2: Calculation of $\Delta x, \Delta y$ and Δt.

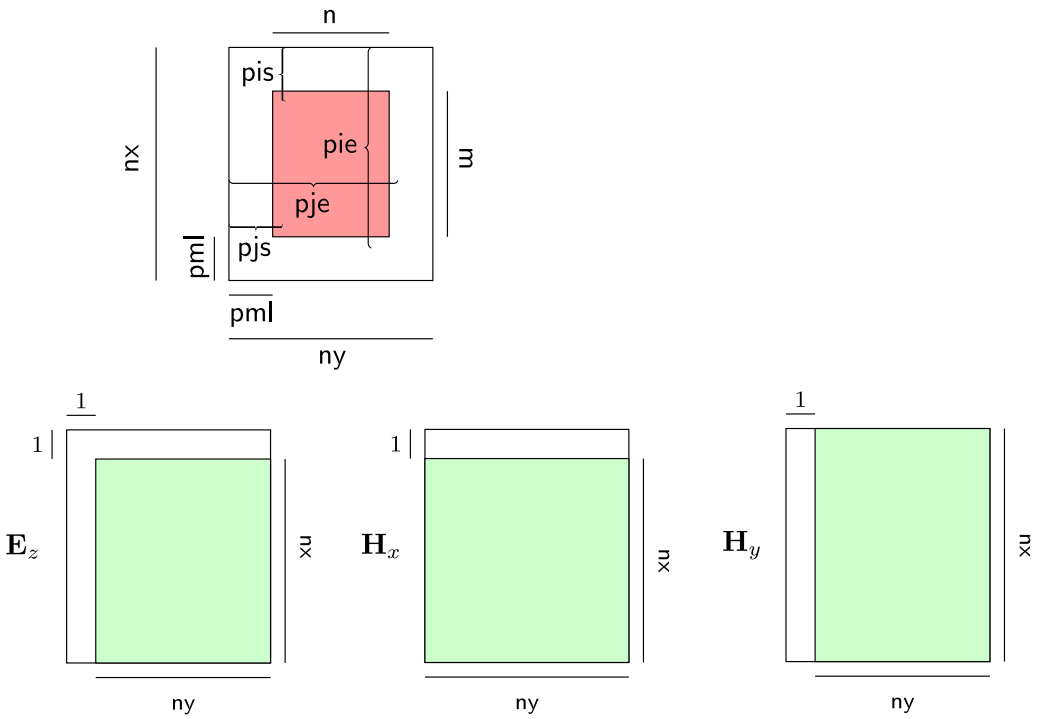

Figure 3: Grid dimensions of $\mathbf{E}_z$, $\mathbf{H}_x$, $\mathbf{H}_y$.

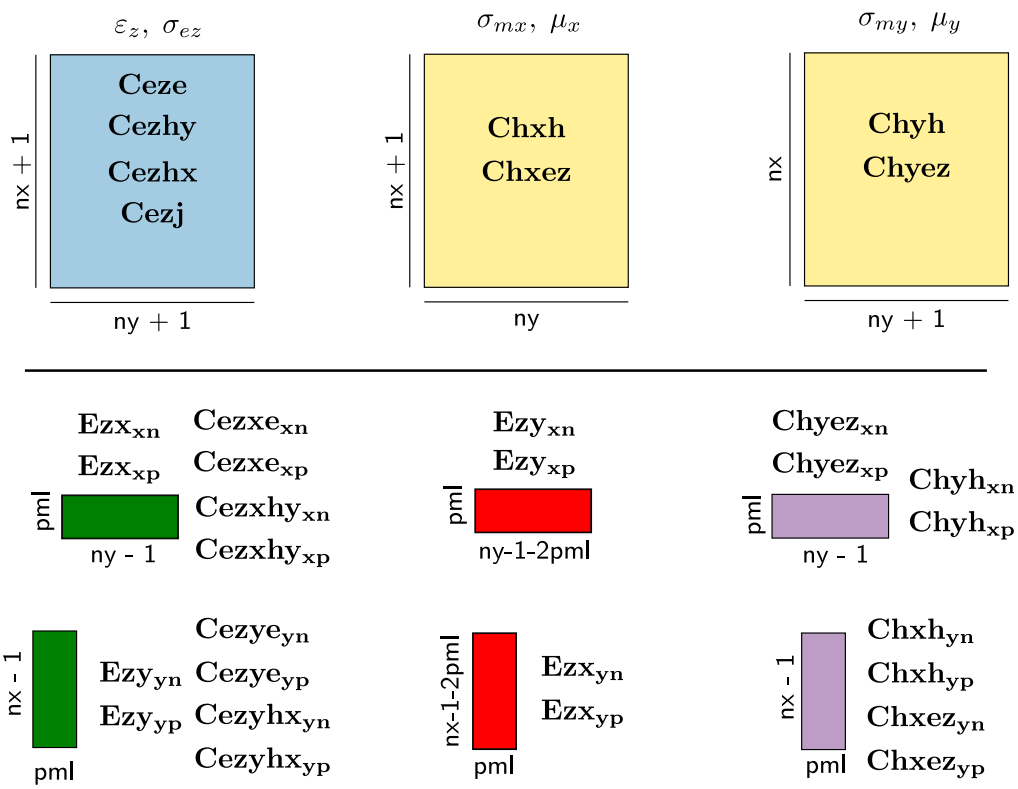

Figure 4: Coefficients of all nodes (**up**), and PML nodes (**down**).

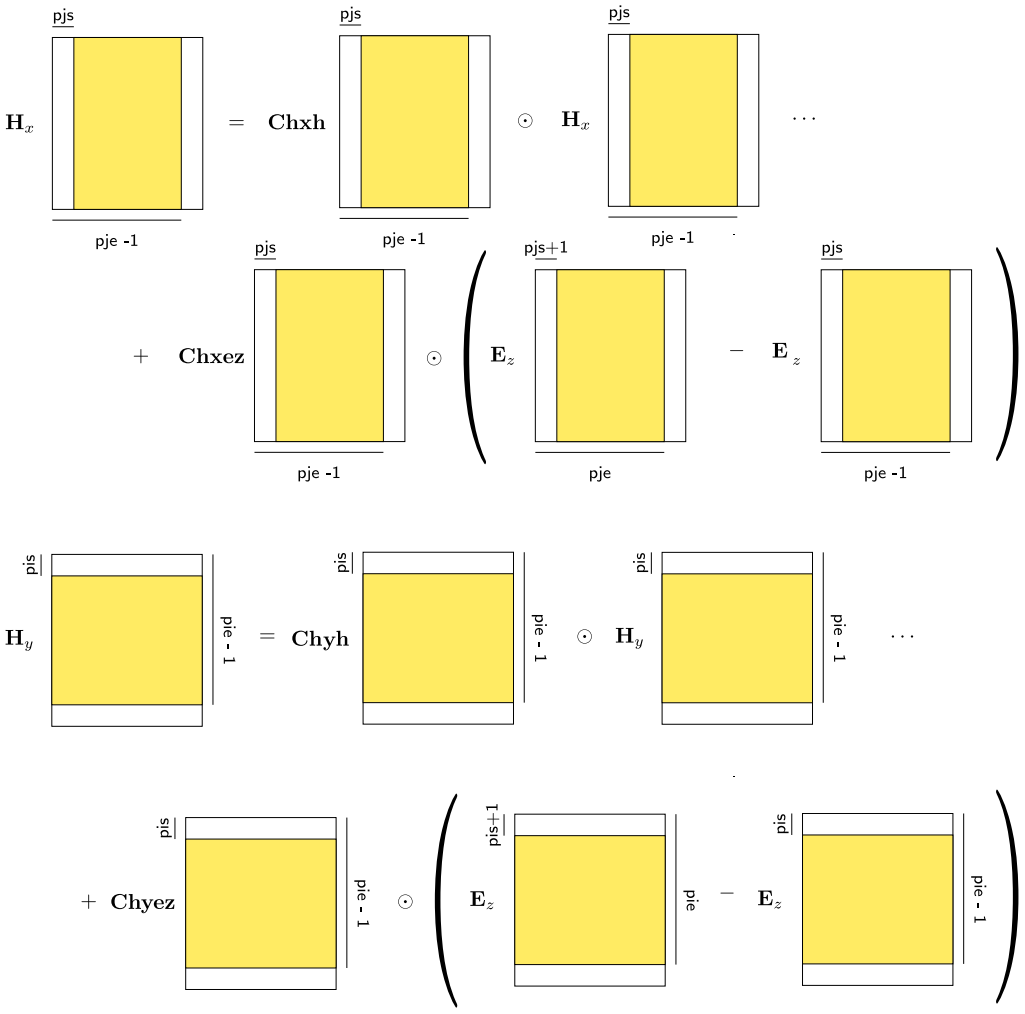

Figure 5: Update of $\mathbf{H}_x$ and $\mathbf{H}_y$. One line of nodes into PML.

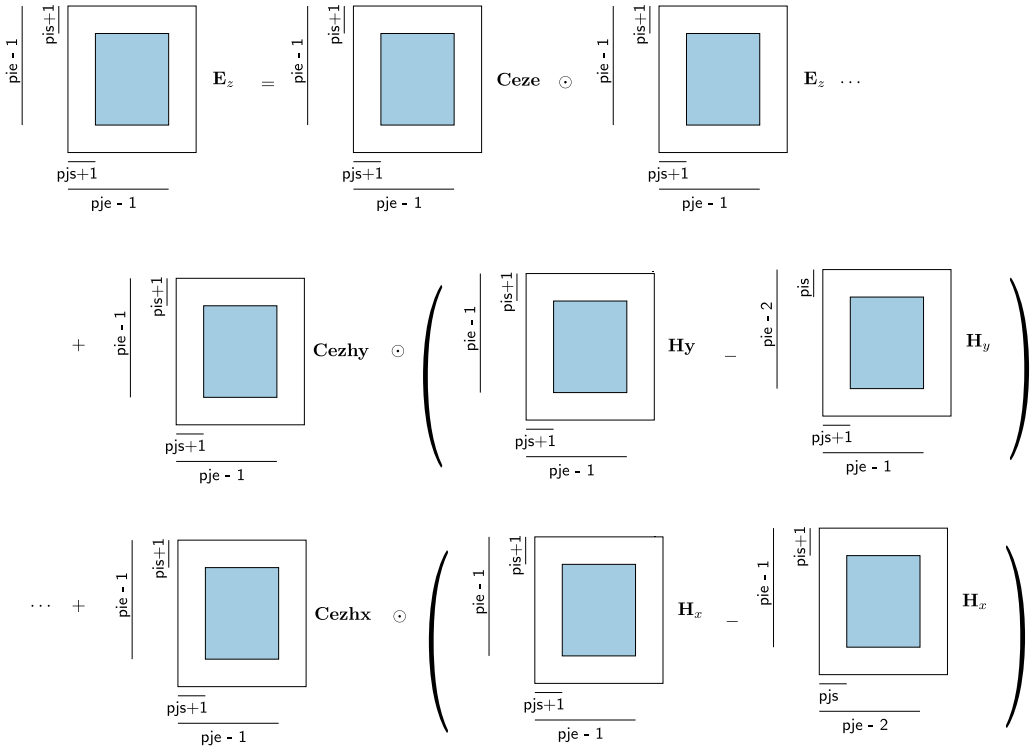

Figure 6: Update of $\mathbf{E}_z$. One line of nodes into PML.

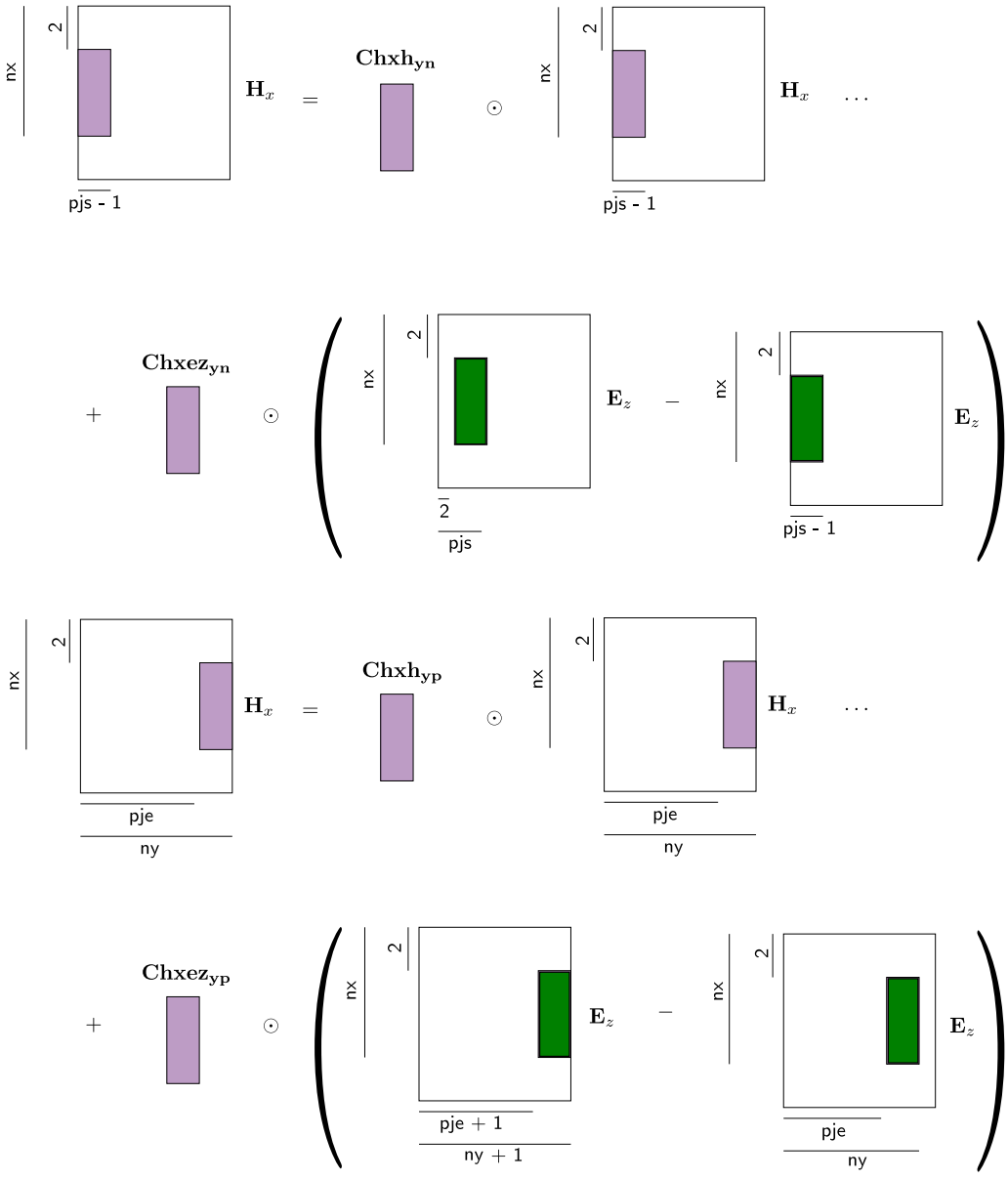

Figure 7: PML update for $\mathbf{H}_x$. PML proper.

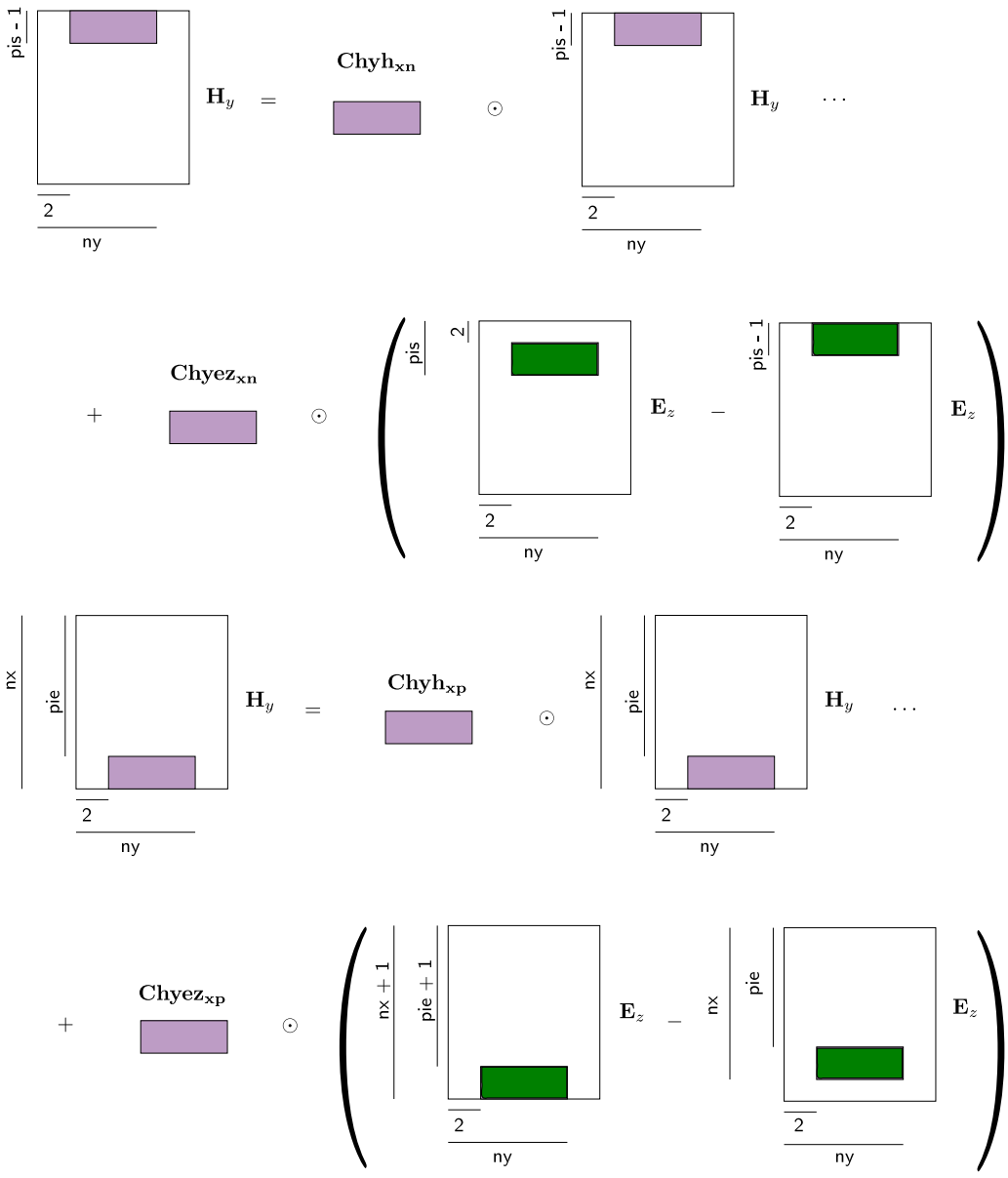

Figure 8: PML update for $\mathbf{H}_y$. PML proper.

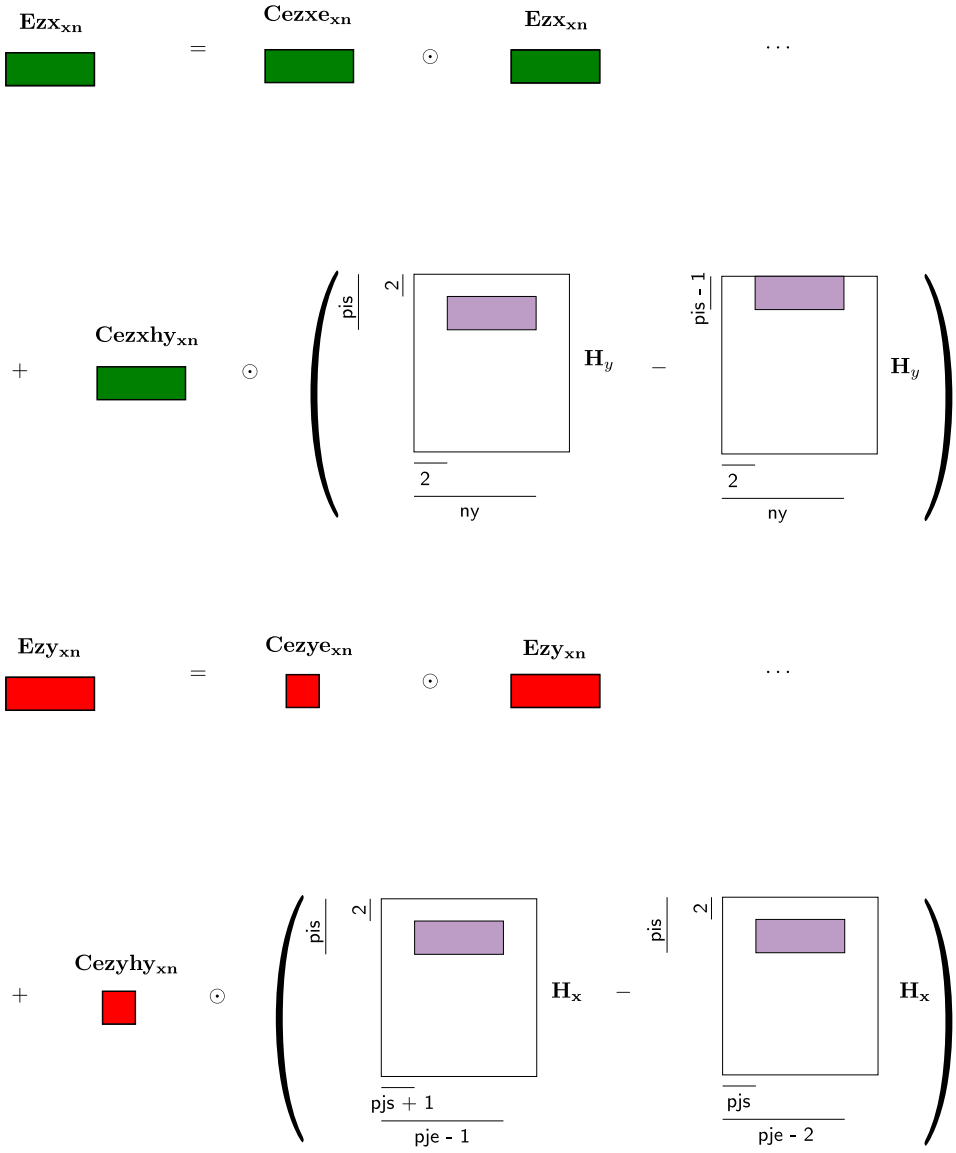

Figure 9: PML update for $\mathbf{E}_{zx}$ up. One line of nodes into inner nodes.

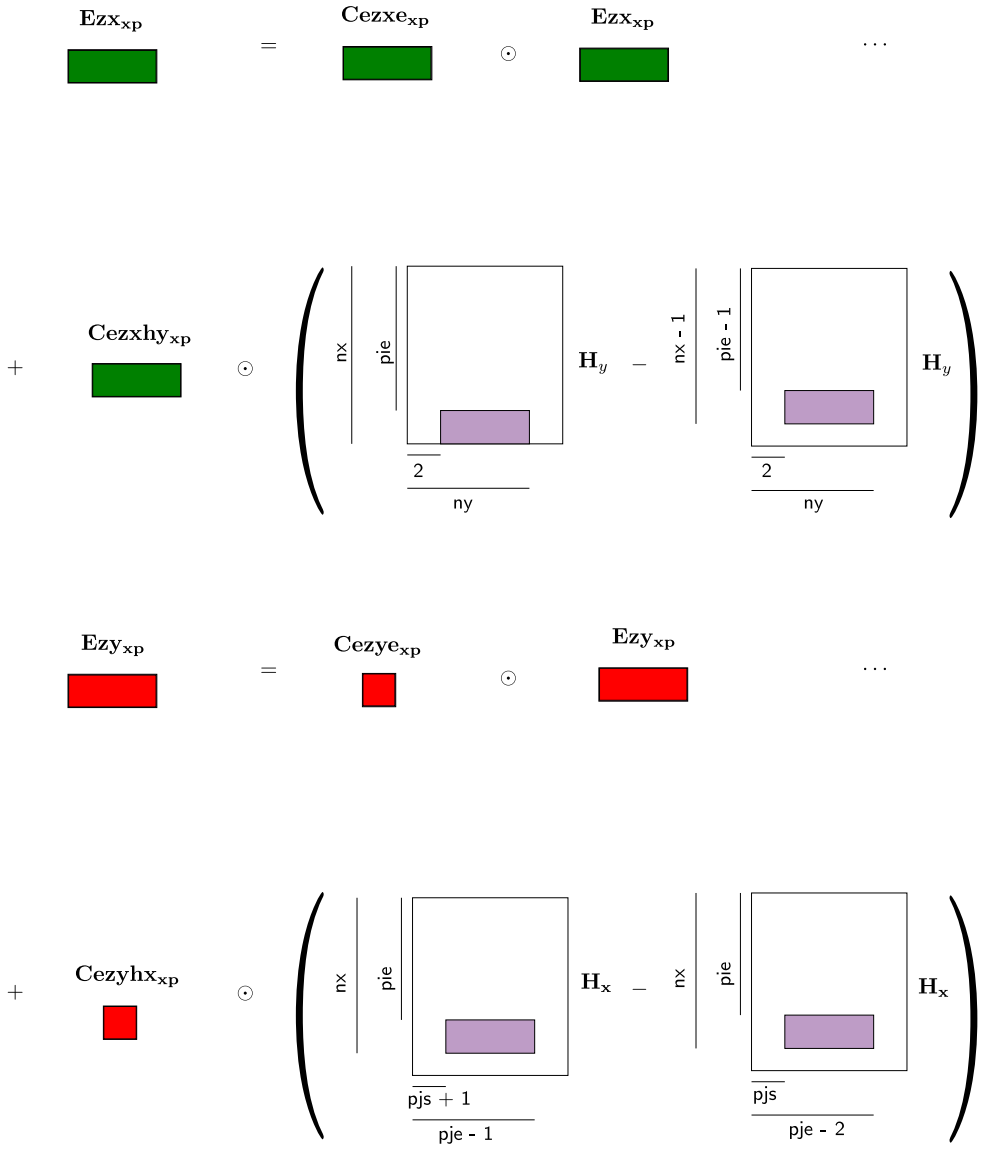

Figure 10: PML update for $\mathbf{E}_{zx}$ down. One line of nodes into inner nodes.

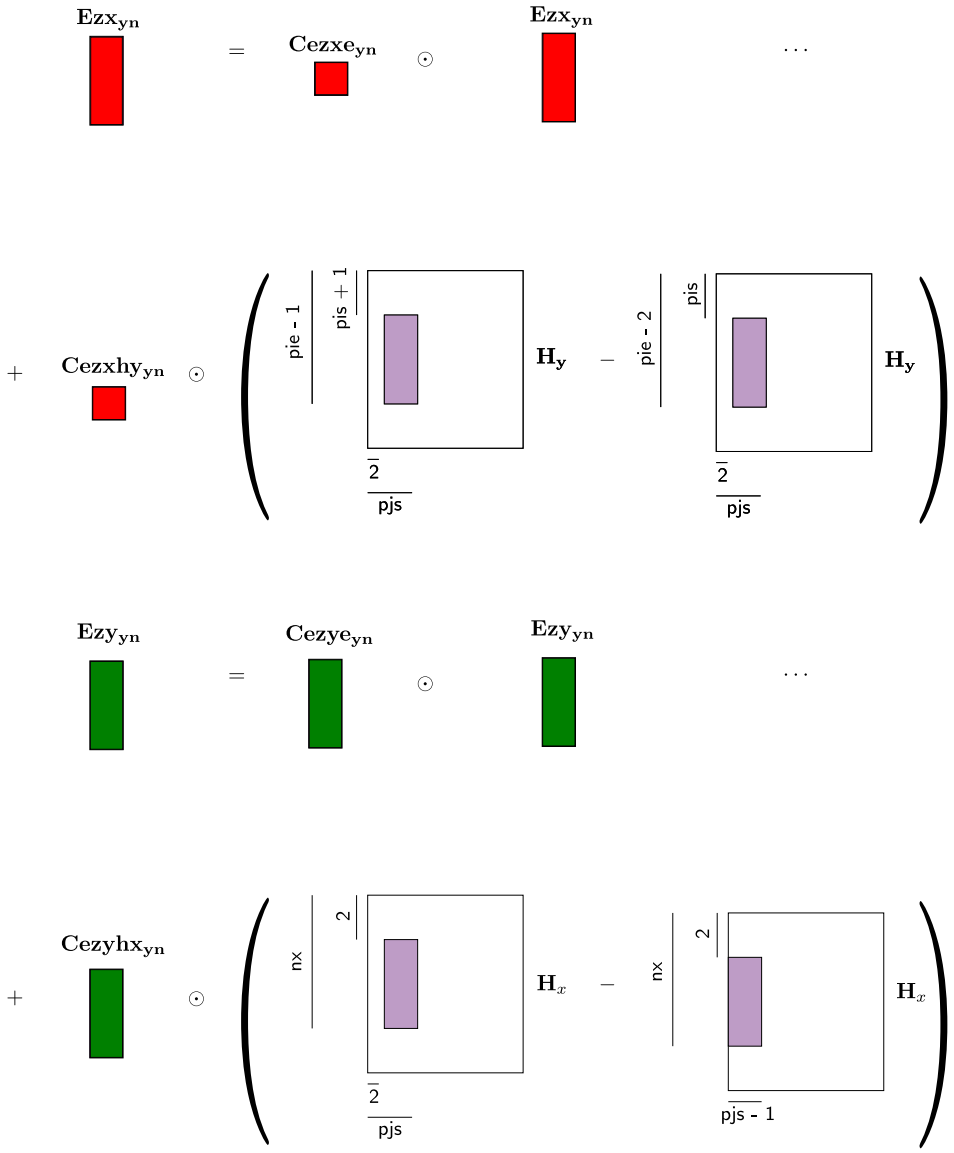

Figure 11: PML update for $\mathbf{E}_{zy}$ left. One line of nodes into inner nodes.

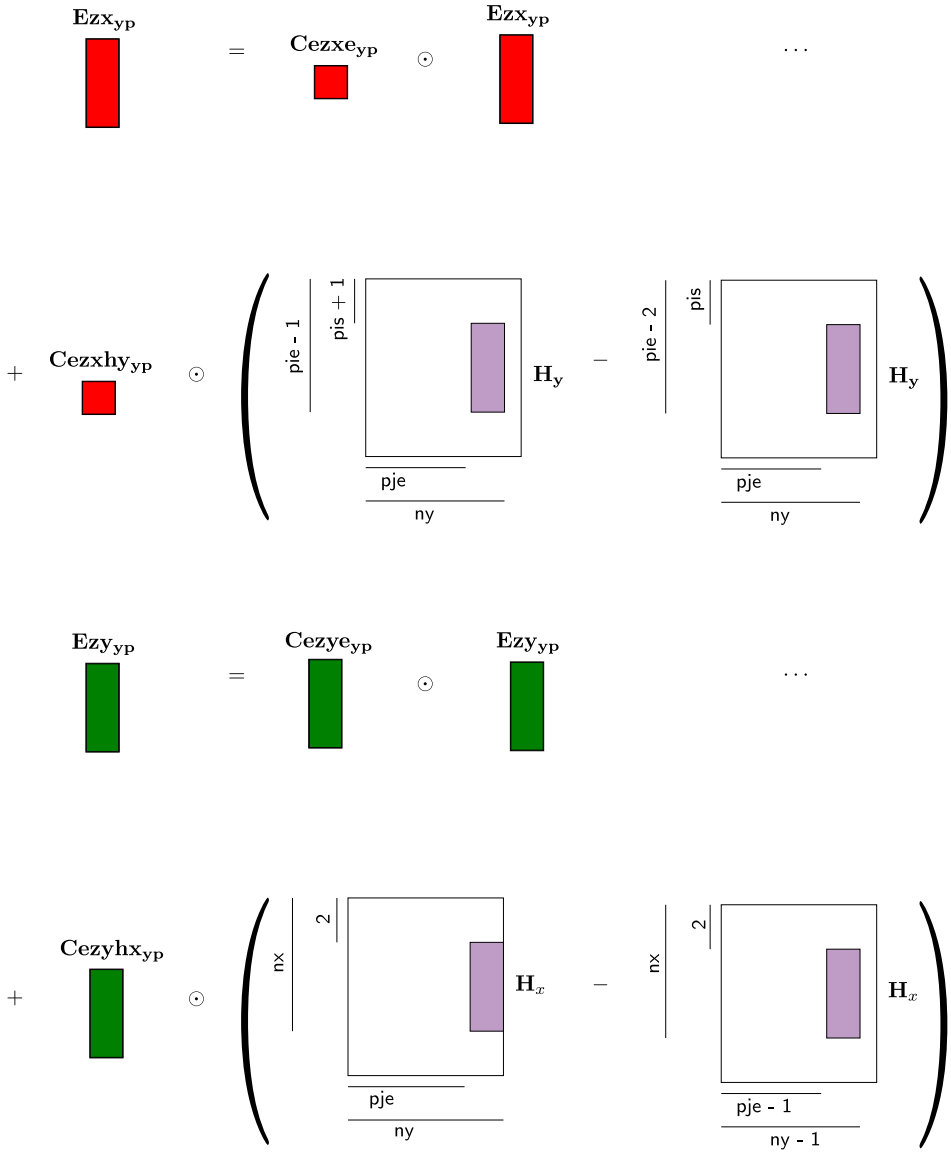

Figure 12: PML update for $\mathbf{E}_{zy}$ right. One line of nodes into inner nodes.

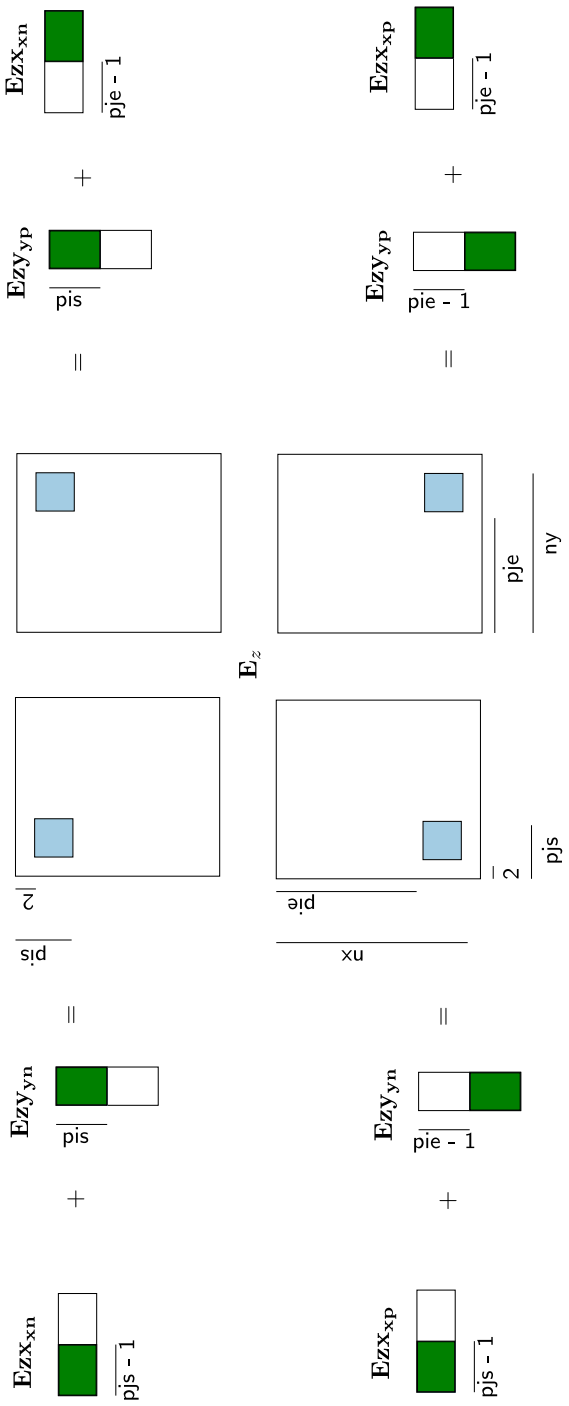

Figure 13: PML update for $\mathbf{E}_z = \mathbf{E}_{zx} + \mathbf{E}_{zy}$ corners. PML proper.

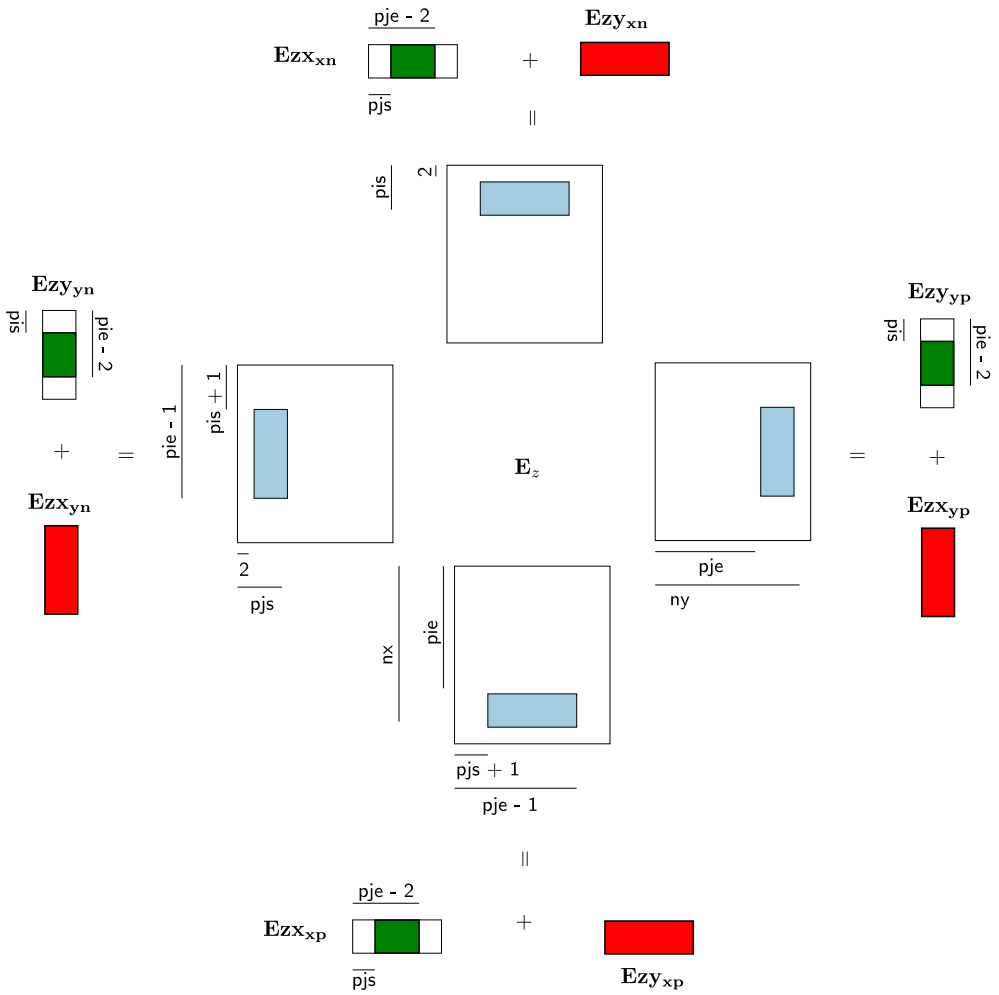

Figure 14: PML update for $\mathbf{E}_z = \mathbf{E}_{zx} + \mathbf{E}_{zy}$ sides. PML proper.