



FIGURE 4.6: Default vertical mesh for ORCA2 : 30 ocean levels (L30). Vertical level functions for (a) T-point depth and (b) the associated scale factor as computed from (4.13) using (4.14) in z -coordinate.

removed from the ocean domain. The user has the option to set the bathymetry in closed seas to zero (see §15.2), but the code has to be adapted to the user's configuration.

4.3.2 z -coordinate ($ln_zco=true$) and reference coordinate

The reference coordinate transformation $z_0(k)$ defines the arrays $gdept_0$ and $gdepw_0$ for t - and w -points, respectively. As indicated on Fig.4.3 jp_k is the number of w -levels. $gdepw_0(1)$ is the ocean surface. There are at most jp_k-1 t -points inside the ocean, the additional t -point at $jk = jp_k$ is below the sea floor and is not used. The vertical location of w - and t -levels is defined from the analytic expression of the depth $z_0(k)$ whose analytical derivative with respect to k provides the vertical scale factors. The user must provide the analytical expression of both z_0 and its first