

$$\begin{aligned}
& \frac{\beta}{k_o} E_x(i, j) = H_y(i, j) + \frac{j}{k_o \, \mathrm{d}x(i)} [E_z(i+1, j) - E_z(i, j)] \\
& \frac{\beta}{k_o} E_x(i, j) = H_y(i, j) + \frac{j}{k_o \, \mathrm{d}x(i)} \left[\frac{-j}{k_o \, \mathrm{d}dx(i) \varepsilon_{zz}(i+1, j)} [H_y(i+1, j) - H_y(i, j)] + \frac{j}{k_o \, \mathrm{d}dy(j-1) \varepsilon_{zz}(i+1, j)} [H_x(i+1, j) - H_x(i+1, j-1)] - \left(\frac{-j}{k_o \, \mathrm{d}dx(i-1) \varepsilon_{zz}(i, j)} [H_y(i, j) - H_y(i-1, j)] + \frac{j}{k_o \, \mathrm{d}dy(j-1) \varepsilon_{zz}(i, j)} [H_x(i, j) - H_x(i, j-1)] \right) \right] \\
& \mathrm{d}dx(i) = \frac{\mathrm{d}x(i) + \mathrm{d}x(i+1)}{2} \quad \quad \mathrm{d}dy(j) = \frac{\mathrm{d}y(j) + \mathrm{d}y(j+1)}{2} \\
& \frac{\beta}{k_o} E_x(i, j) = H_y(i, j) + \frac{1}{k_o^2 \, \mathrm{d}dx(i) \, \mathrm{d}x(i) \varepsilon_{zz}(i+1, j)} [H_y(i+1, j) - H_y(i, j)] - \frac{1}{k_o^2 \, \mathrm{d}x(i) \, \mathrm{d}dy(j-1) \varepsilon_{zz}(i+1, j)} [H_x(i+1, j) - H_x(i+1, j-1)] - \frac{1}{k_o^2 \, \mathrm{d}dx(i-1) \, \mathrm{d}x(i) \varepsilon_{zz}(i, j)} [H_y(i, j) - H_y(i-1, j)] + \frac{1}{k_o^2 \, \mathrm{d}x(i) \, \mathrm{d}dy(j-1) \varepsilon_{zz}(i, j)} [H_x(i, j) - H_x(i, j-1)] \Big) \\
& \frac{\beta}{k_o} E_y(i, j) = -H_x(i, j) + \frac{j}{k_o \, \mathrm{d}y(j)} [E_z(i, j+1) - E_z(i, j)] \\
& \frac{\beta}{k_o} E_y(i, j) = -H_x(i, j) + \frac{j}{k_o \, \mathrm{d}y(j)} \left[\frac{-j}{k_o \, \mathrm{d}dx(i-1) \varepsilon_{zz}(i, j+1)} [H_y(i, j+1) - H_y(i-1, j+1)] + \frac{j}{k_o \, \mathrm{d}dy(j) \varepsilon_{zz}(i, j)} [H_x(i, j+1) - H_x(i, j)] - \left(\frac{-j}{k_o \, \mathrm{d}dx(i-1) \varepsilon_{zz}(i, j)} [H_y(i, j) - H_y(i-1, j)] + \frac{j}{k_o \, \mathrm{d}dy(j-1) \varepsilon_{zz}(i, j)} [H_x(i, j) - H_x(i, j-1)] \right) \right] \\
& \frac{\beta}{k_o} E_y(i, j) = -H_x(i, j) + \frac{1}{k_o^2 \, \mathrm{d}y(j) \, \mathrm{d}dx(i-1) \varepsilon_{zz}(i, j+1)} [H_y(i, j+1) - H_y(i-1, j+1)] - \frac{1}{k_o^2 \, \mathrm{d}y(j) \, \mathrm{d}dy(j) \varepsilon_{zz}(i, j)} [H_x(i, j+1) - H_x(i, j)] - \frac{1}{k_o^2 \, \mathrm{d}y(j) \, \mathrm{d}dx(i-1) \varepsilon_{zz}(i, j)} [H_y(i, j) - H_y(i-1, j)] + \frac{1}{k_o^2 \, \mathrm{d}y(j) \, \mathrm{d}dy(j-1) \varepsilon_{zz}(i, j)} [H_x(i, j) - H_x(i, j-1)] \Big)
\end{aligned}$$

Bu formüllerde şu normalizasyon uygulanmış:

$$H' = H \sqrt{\eta_0} \quad \quad E' = \frac{E}{\sqrt{\eta_0}}$$