$$\frac{\beta}{k_o}E_x(i,j){=}H_y(i,j){+}\frac{j}{k_o\mathrm{dx}\,(i)}[E_z(i{+}1,j){-}E_z(i,j)]$$

$$\frac{\beta}{k_o}E_x(i,j){=}H_y(i,j){+}\frac{j}{k_o\mathrm{dx}\,(i)}\left[\frac{-j}{k_o\mathrm{ddx}\,(i)\varepsilon_{\mathrm{zz}}(i{+}1,j)}[H_y(i{+}1,j){-}H_y(i,j)]{+}\frac{j}{k_o\mathrm{ddy}\,(j{-}1)\varepsilon_{\mathrm{zz}}(i{+}1,j)}[H_x(i{+}1,j){-}H_x(i{+}1,j{-}1)]{-}\left(\frac{-j}{k_o\mathrm{ddx}\,(i{-}1)\varepsilon_{\mathrm{zz}}(i,j)}[H_y(i,j){-}H_y(i{-}1,j)]{+}\frac{j}{k_o\mathrm{ddy}\,(j{-}}\right.$$

$$\mathrm{ddx}\,(i){=}\frac{\mathrm{dx}\,(i){+}\mathrm{dx}\,(i{+}1)}{2}\qquad \mathrm{ddy}\,(j){=}\frac{\mathrm{dy}\,(j){+}\mathrm{dy}\,(j{+}1)}{2}$$

$$\frac{\beta}{k_o}E_x(i,j){=}H_y(i,j){+}\frac{1}{k_o^2\mathrm{ddx}\,(i)\mathrm{dx}\,(i)\varepsilon_{\mathrm{zz}}(i{+}1,j)}[H_y(i{+}1,j){-}H_y(i,j)]{-}\frac{1}{k_o^2\mathrm{dx}\,(i)\mathrm{ddy}\,(j{-}1)\varepsilon_{\mathrm{zz}}(i{+}1,j)}[H_x(i{+}1,j){-}H_x(i{+}1,j{-}1)]{-}\frac{1}{k_o^2\mathrm{ddx}\,(i{-}1)\mathrm{dx}\,(i)\varepsilon_{\mathrm{zz}}(i,j)}[H_y(i,j){-}H_y(i{-}1,j)]{+}\frac{1}{k_o^2\mathrm{dx}}$$

$$\frac{\beta}{k_o}E_y(i,j){=}-H_x(i,j){+}\frac{j}{k_o\mathrm{dy}\,(j)}[E_z(i,j{+}1){-}E_z(i,j)]$$

$$\frac{\beta}{k_o}E_y(i,j){=}-H_x(i,j){+}\frac{j}{k_o\mathrm{dy}\,(j)}\left[\frac{-j}{k_o\mathrm{ddx}\,(i{-}1)\varepsilon_{\mathrm{zz}}(i,j{+}1)}[H_y(i,j{+}1){-}H_y(i{-}1,j{+}1)]{+}\frac{j}{k_o\mathrm{ddy}\,(j)\varepsilon_{\mathrm{zz}}(i,j)}[H_x(i,j{+}1){-}H_x(i,j)]{-}\left(\frac{-j}{k_o\mathrm{ddx}\,(i{-}1)\varepsilon_{\mathrm{zz}}(i,j)}[H_y(i,j){-}H_y(i{-}1,j)]{+}\frac{j}{k_o\mathrm{ddy}\,(j{-}1}\right.\right.$$

$$\frac{\beta}{k_o}E_y(i,j){=}-H_x(i,j){+}\frac{1}{k_o^2\mathrm{dy}\,(j)\mathrm{ddx}\,(i{-}1)\varepsilon_{\mathrm{zz}}(i,j{+}1)}[H_y(i,j{+}1){-}H_y(i{-}1,j{+}1)]{-}\frac{1}{k_o^2\mathrm{dy}\,(j)\mathrm{ddy}\,(j)\varepsilon_{\mathrm{zz}}(i,j)}[H_x(i,j{+}1){-}H_x(i,j)]{-}\frac{1}{k_o^2\mathrm{dy}\,(j)\mathrm{ddx}\,(i{-}1)\varepsilon_{\mathrm{zz}}(i,j)}[H_y(i,j){-}H_y(i{-}1,j)]{+}\frac{1}{k_o^2\mathrm{dy}\,(j)\mathrm{ddy}\,(j{-}1)\varepsilon}$$

Bu formüllerde şu normalizasyon uygulanmış:

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