```
# first pass of conventional phase-shift migration.
P(ω, k_x) = FT[ u(t, x) ]
For  τ = Δτ, 2Δτ, ··· , τ_max {
      For all k_x {
            Uimage(k_x, τ) = 0.
            For all ω > | k | v(τ) {
                  C = exp( - i ω Δτ sqrt(1 - v(τ)^2 k_x^2/ω^2) )
                  P(ω, k_x) = P(ω, k_x) * C
                  Uimage(k_x, τ) = Uimage(k_x, τ) + P(ω, k_x)
                  }
            }
      uimage(x, τ) = FT[Uimage(k_x, τ)]
      }

# Second pass for underside image.
For  τ = τ_max, τ_max-Δτ, τ_max-2Δτ, ··· , 0 {
      For all k_x {
            Dimage(k_x, τ) = 0.
            For ω = | k | v(τ) to ω = | k | v(τ_max) {
                  # The wave changes direction but so does Δτ
                  C = exp( - i ω Δτ sqrt(1 - v(τ)^2 k_x^2/ω^2) )
                  P(ω, k_x) = P(ω, k_x) * C
                  Dimage(k_x, τ) = Dimage(k_x, τ) + P(ω, k_x)
                  }
            }
      dimage(x, τ) = FT[Dimage(k_x, τ)]
      }
```