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$$\frac{d^2\phi}{dt^2} = v^2 \frac{d^2\phi}{dx^2} \tag{1}$$

Where:

$$\psi = \frac{d\phi}{dt} \tag{2}$$

Therefore:

$$\frac{d\psi}{dt} = v^2 \frac{d^2\phi}{dx^2} \tag{3}$$

$$\frac{\psi_i^{n+1} - \psi_i^n}{\Delta t} = \frac{1}{2}[F_i^{n+1} + F_i^n] \tag{4}$$

Where

$$F = v^2 \frac{d^2\phi}{dx^2} \tag{5}$$

and

$$\Delta x = a \tag{6}$$

Therefore

$$\frac{\psi_i^{n+1} - \psi_i^n}{\Delta t} = \frac{v^2}{2a^2}[(\phi_{i+1}^{n+1} - 2\phi_i^{n+1} + \phi_{i-1}^{n+1}) + (\phi_{i+1}^n - 2\phi_i^n + \phi_{i-1}^n)] \tag{7}$$

$$\Delta t = h \tag{8}$$

$$\psi_i^{n+1} - \psi_i^n = \frac{h * v^2}{2a^2}[(\phi_{i+1}^{n+1} - 2\phi_i^{n+1} + \phi_{i-1}^{n+1}) + (\phi_{i+1}^n - 2\phi_i^n + \phi_{i-1}^n)] \tag{9}$$