

SLIM





Forward Problem

Given initial pressure distribution and a constant pressure:

3

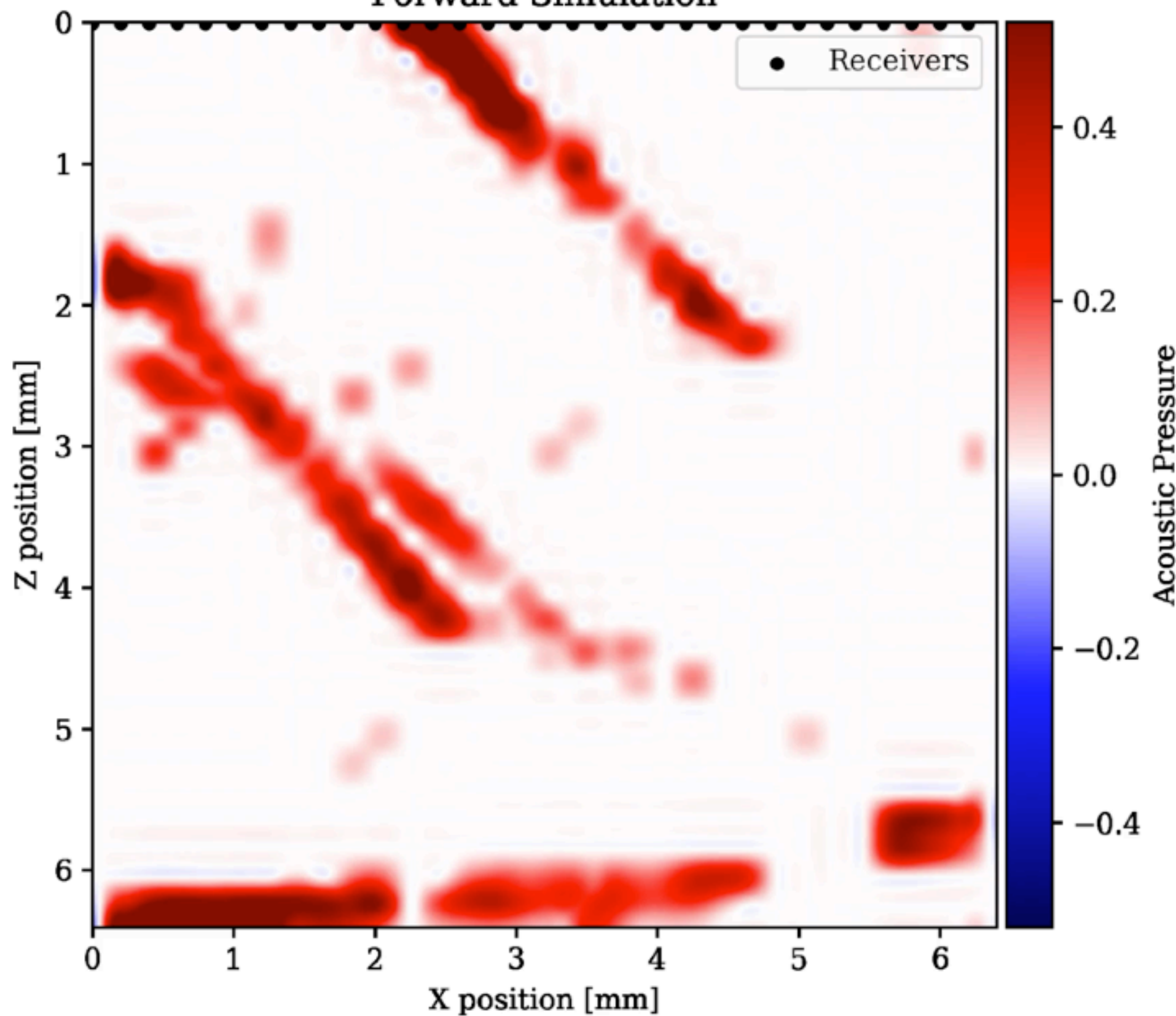
8

$$u(x,0) = p_0(x)$$

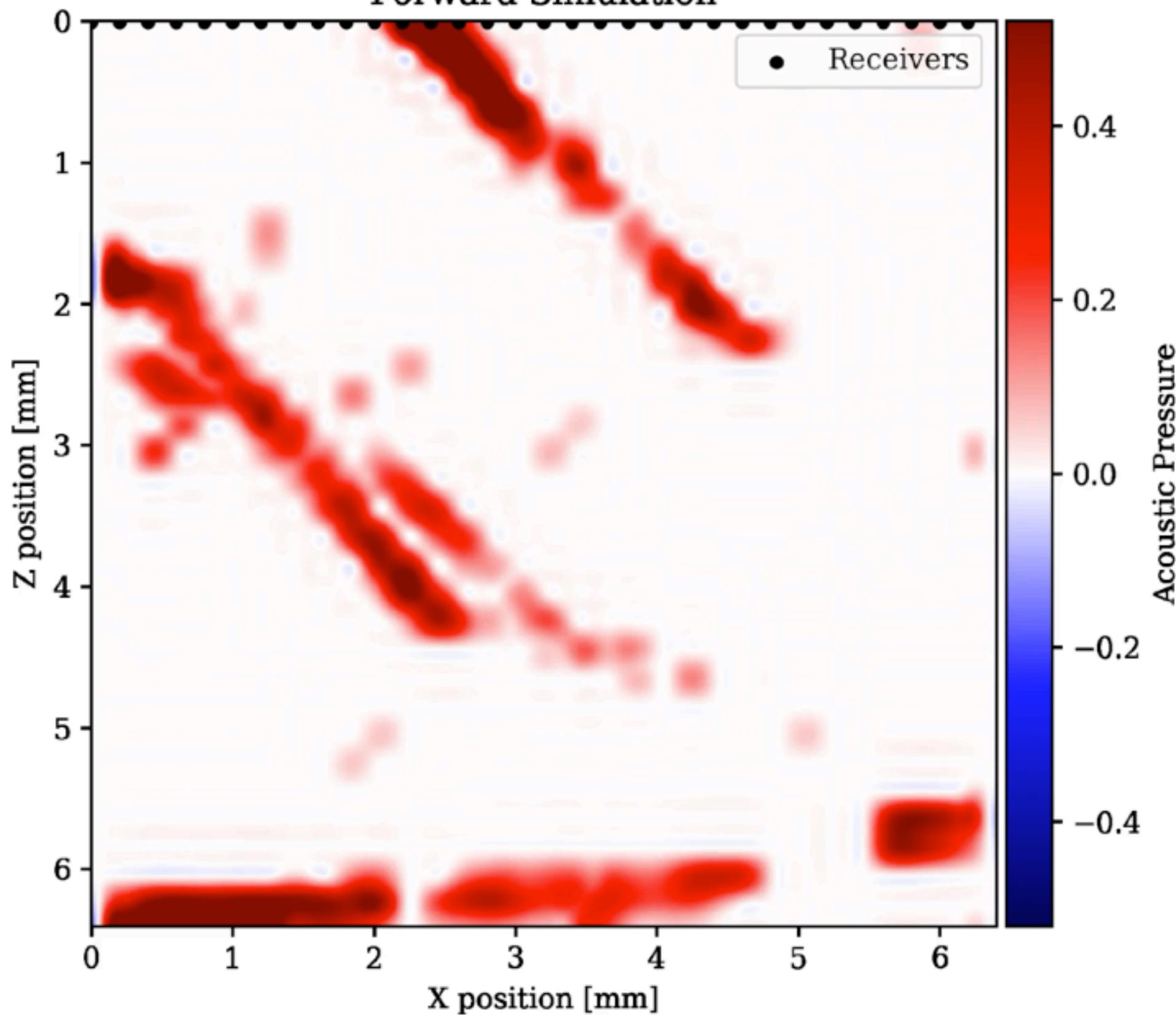
$$\frac{\partial}{\partial t}u(x,0)=0$$

$$\frac{1}{c_0^2} \frac{\partial^2}{\partial t^2} u(x, t) - \Delta u(x, t) = 0$$

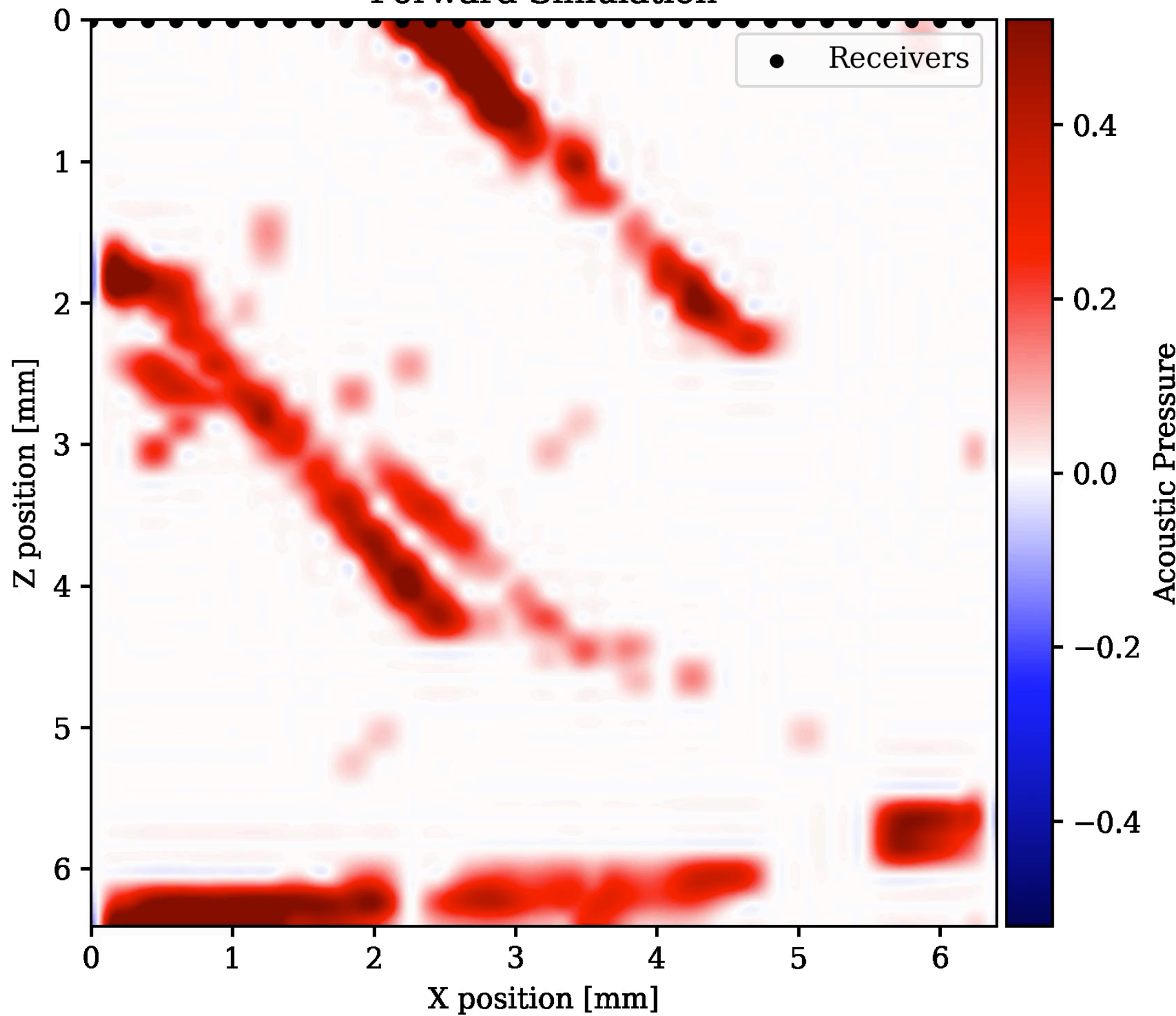
Forward Simulation



Forward Simulation



Forward Simulation



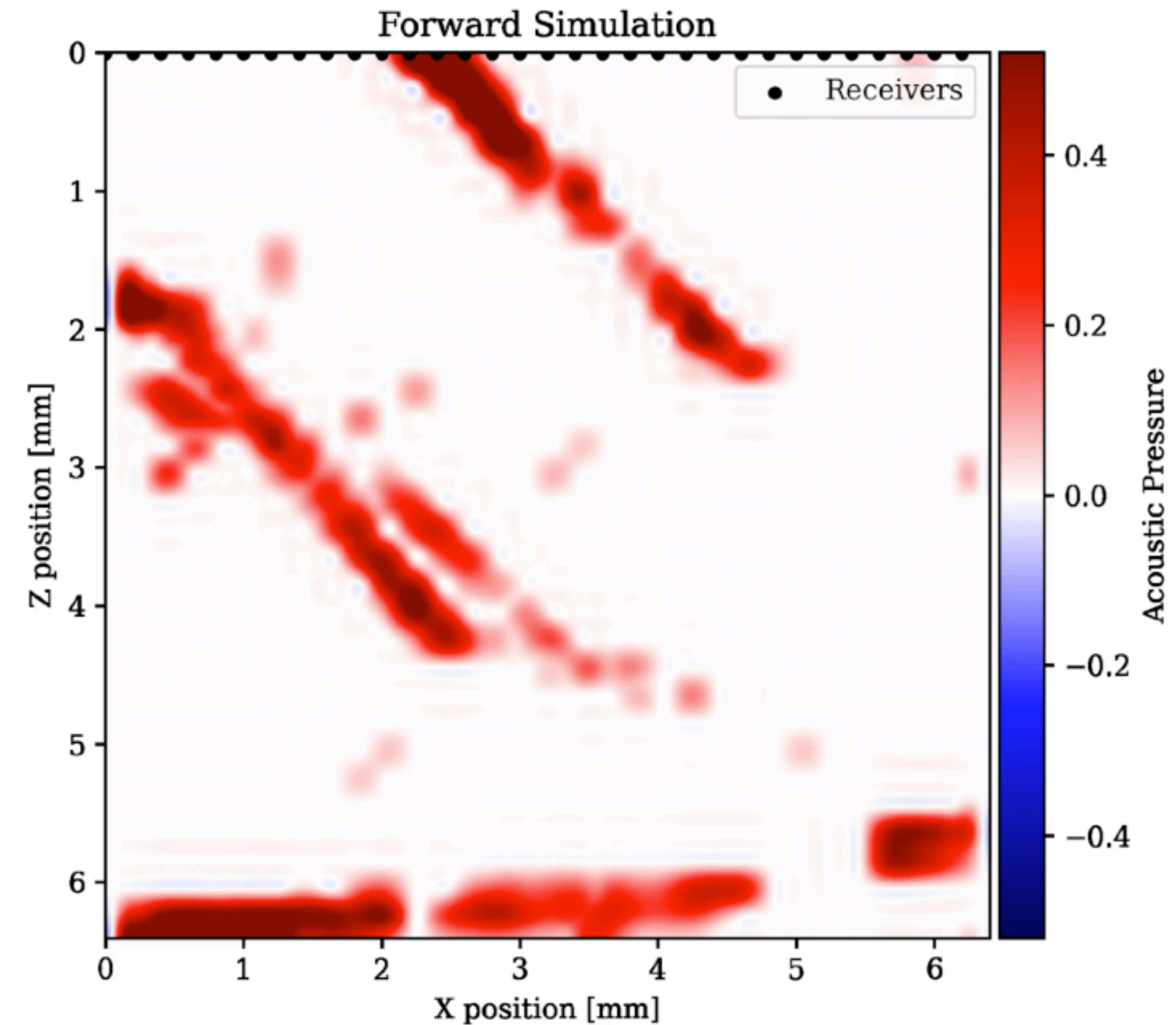
Forward Problem

Given initial pressure distribution calculate pressure at receivers:

$$\frac{1}{c_0^2} \frac{\partial^2}{\partial t^2} u(x, t) - \Delta u(x, t) = 0$$

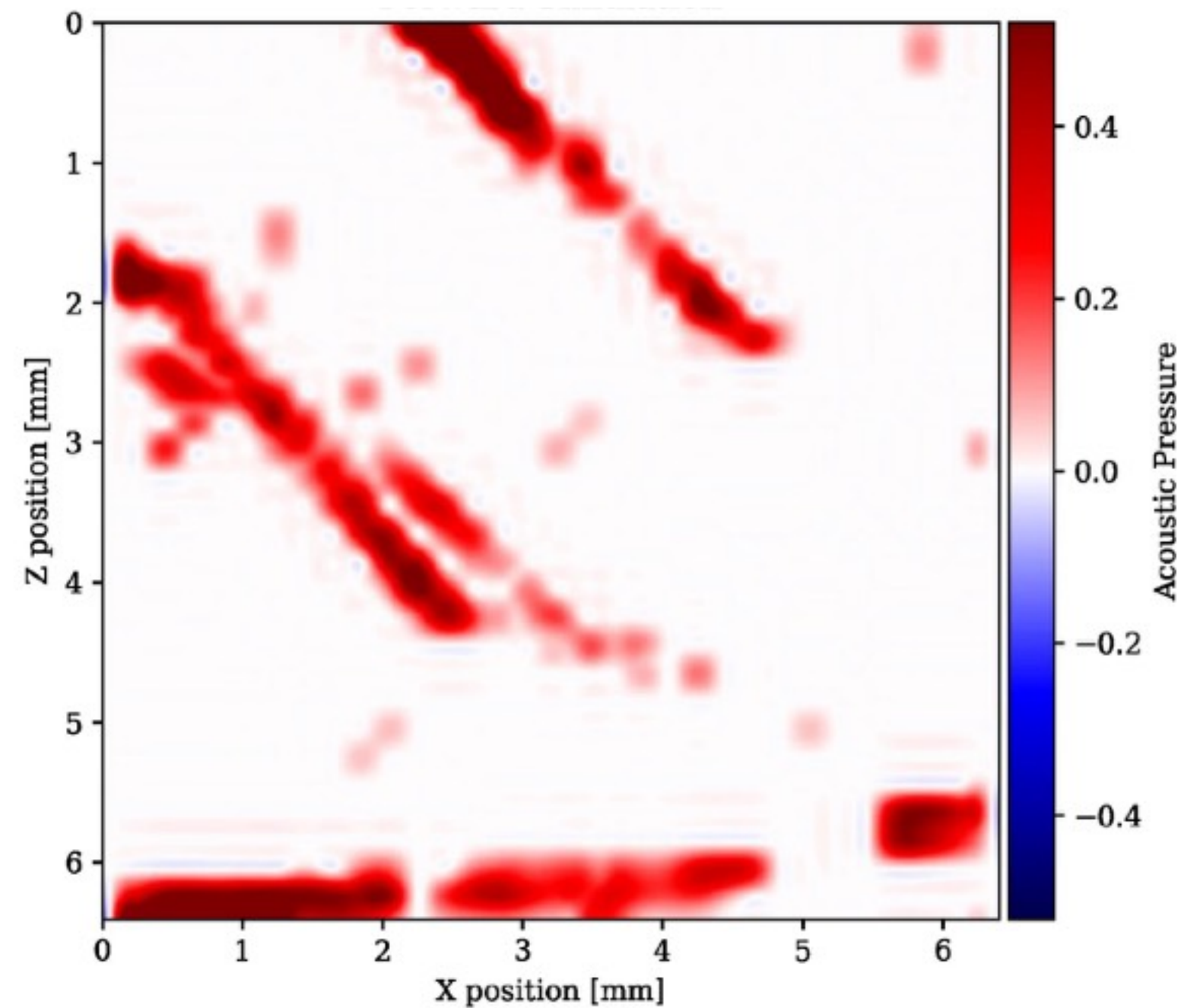
$$u(x, 0) = p_0(x)$$

$$\frac{\partial}{\partial t} u(x, 0) = 0$$

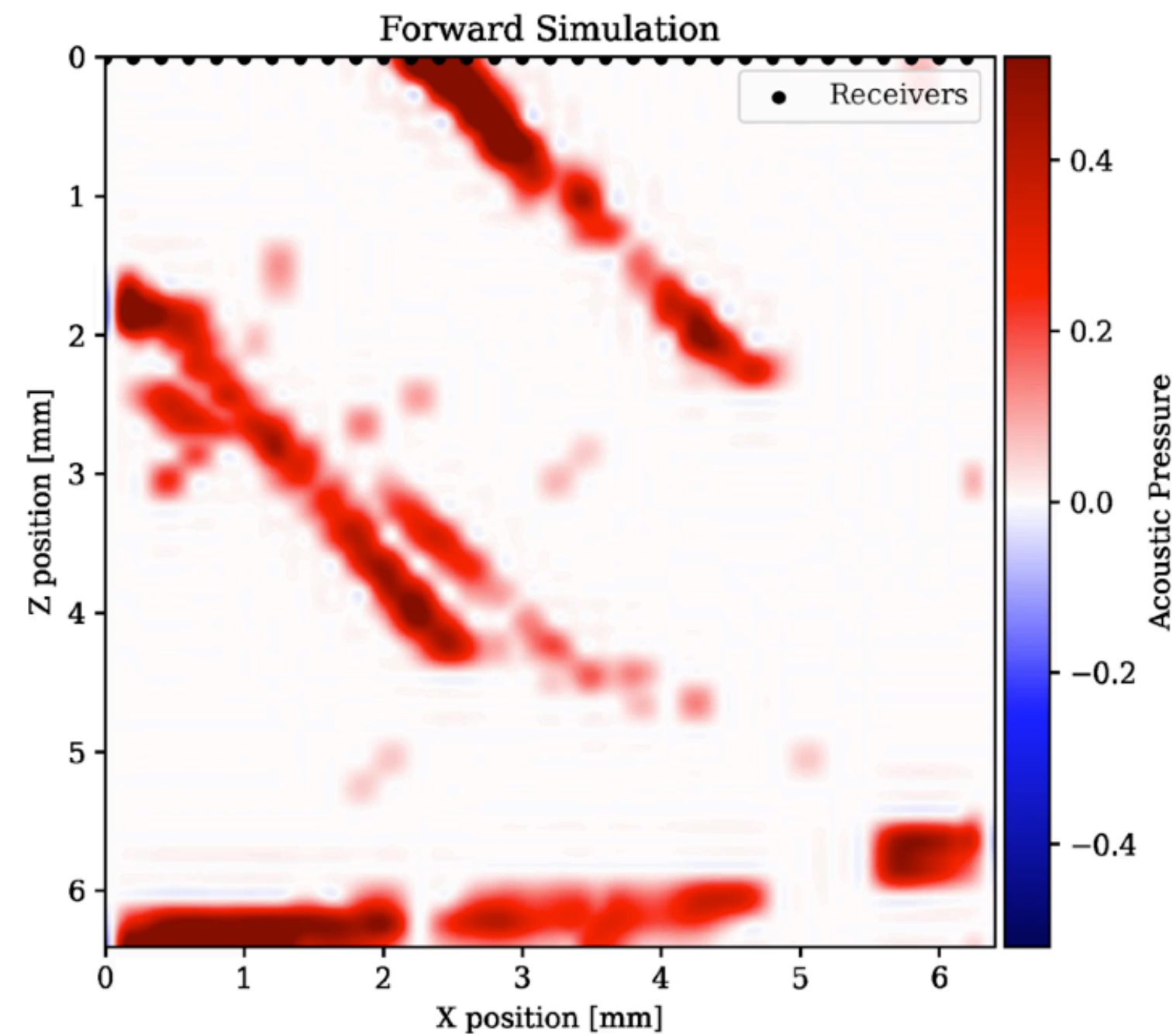


Forward Problem

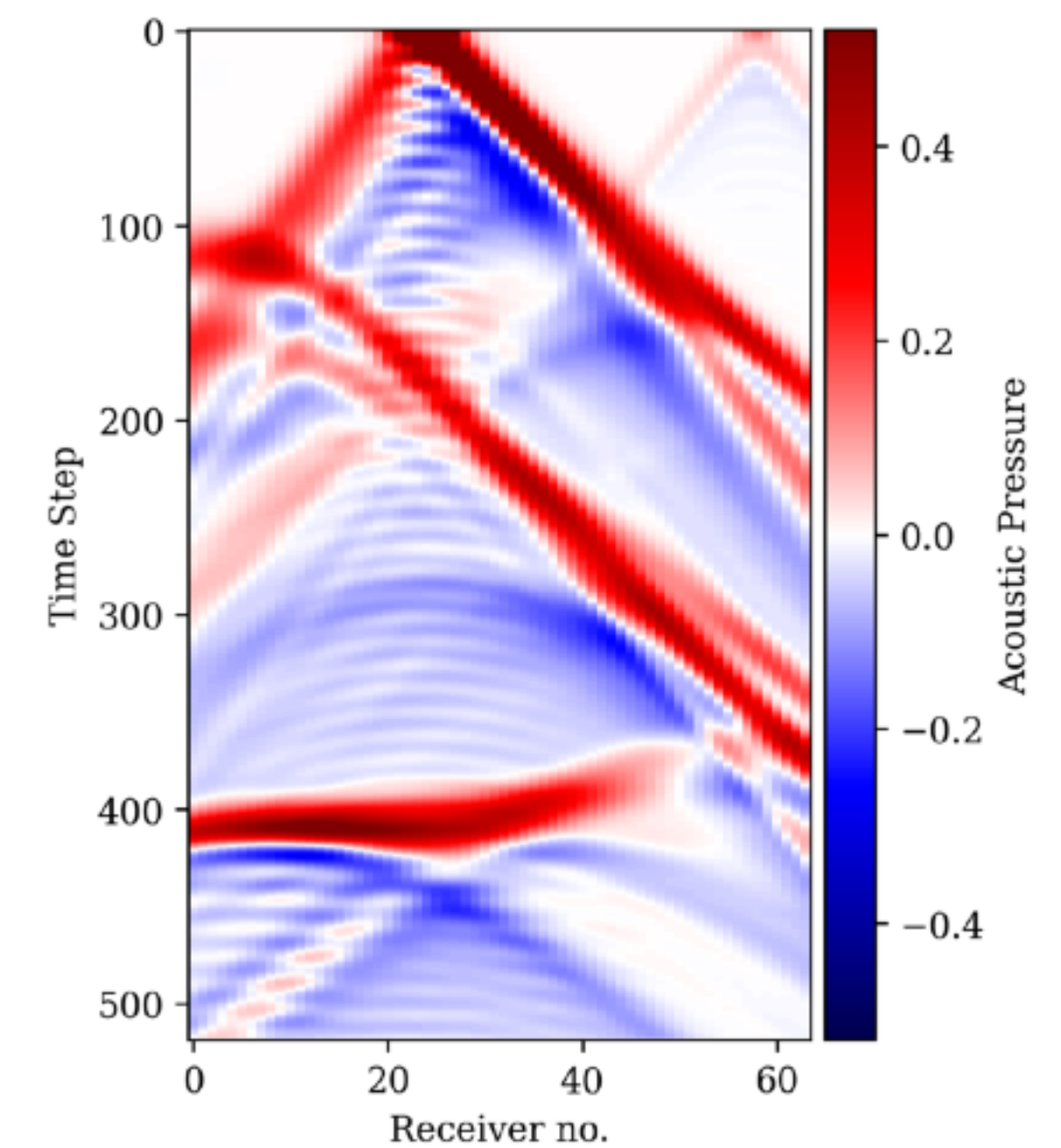
Can be expressed as linear operator $\mathbf{d} = \mathbf{A}\mathbf{p}$



\mathbf{p} = initial pressure condition



$\mathbf{A}\mathbf{p}$ = forward wave operator



\mathbf{d} = data at receivers