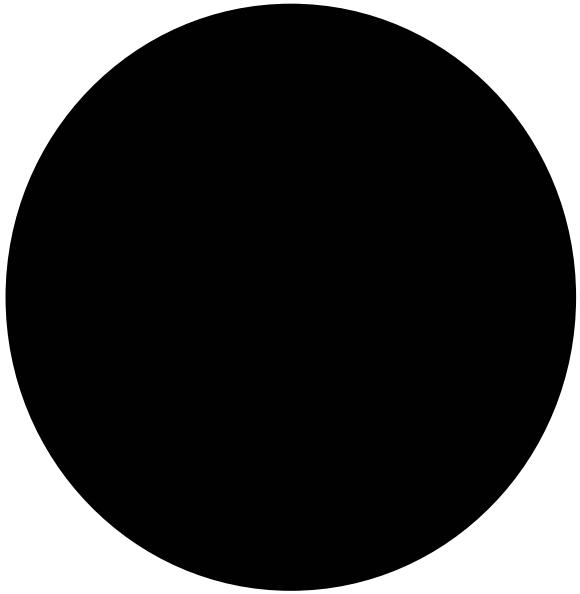
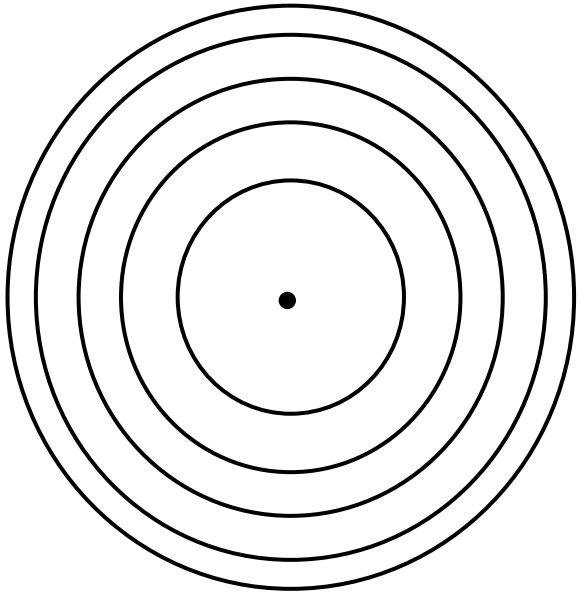
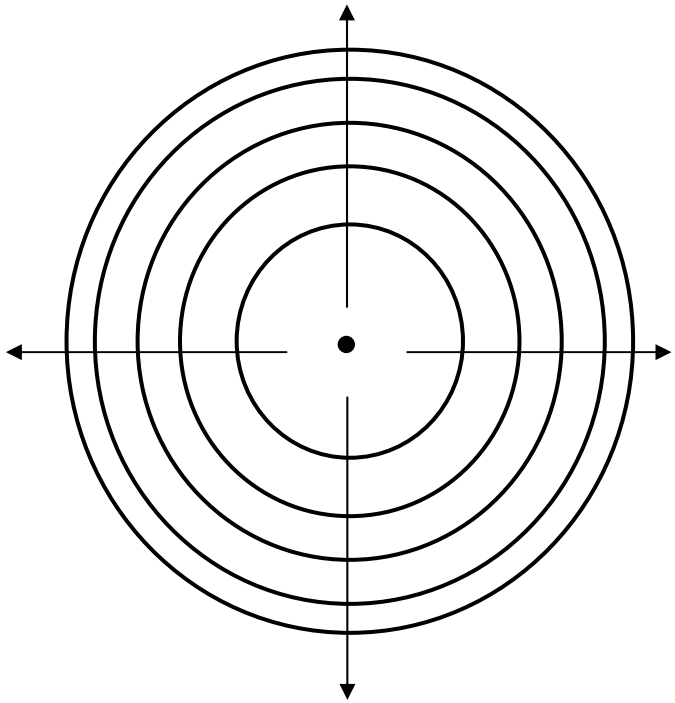
Propagación de frentes



Propagación de frentes

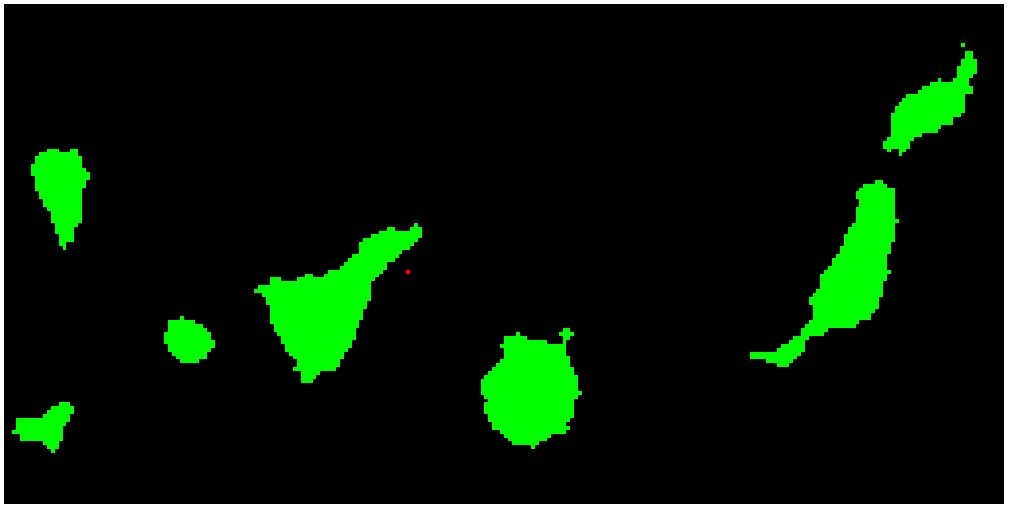


Propagación de frentes



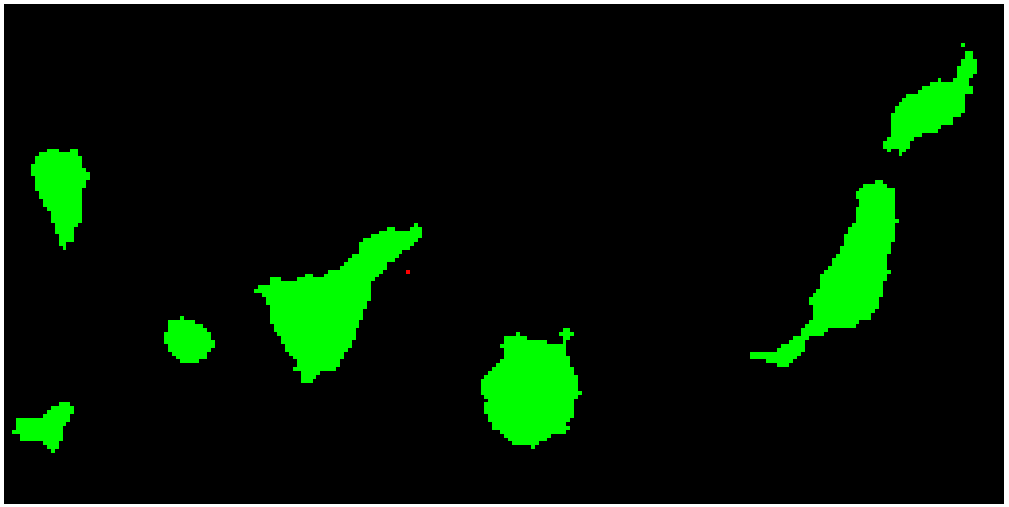
$$\frac{\partial u}{\partial t} = k\|\nabla u\|$$

Propagación de frentes



$$\frac{\partial u}{\partial t} = F\|\nabla u\|$$

Propagación de frentes



$$\frac{\partial u}{\partial t} = F\|\nabla u\|$$

Canal rojo: frente que se propaga (suponemos sin límite)
Canal verde: velocidad de propagación (a mayor valor, más lento)

Propagación de frentes

Evolución del frente

$$\frac{\partial u}{\partial t} = F\|\nabla u\|$$

Fuerza que controla la velocidad

$$F(x,y) = \frac{1}{1 + G_\eta * \lambda^+\left(G_\sigma * \left(\nabla I \otimes \nabla I\right)\right)(x,y)}$$

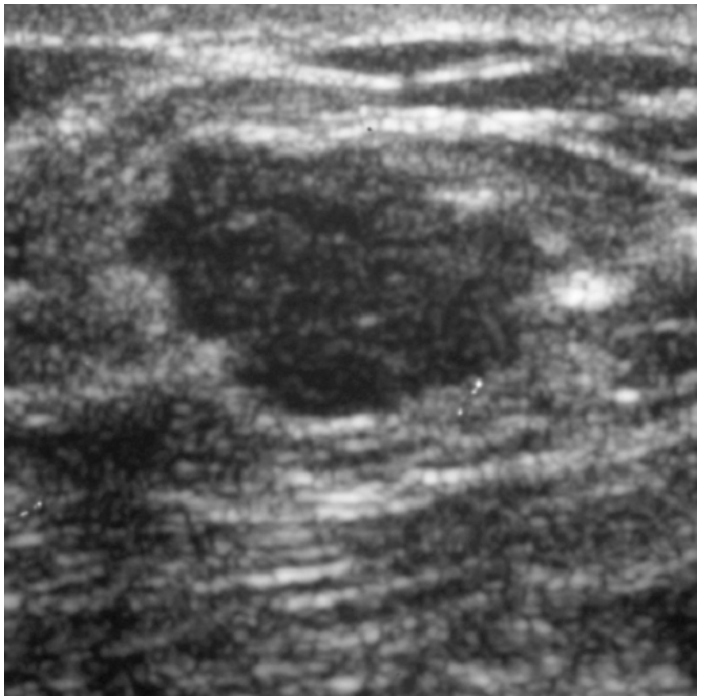
Discretización del gradiente

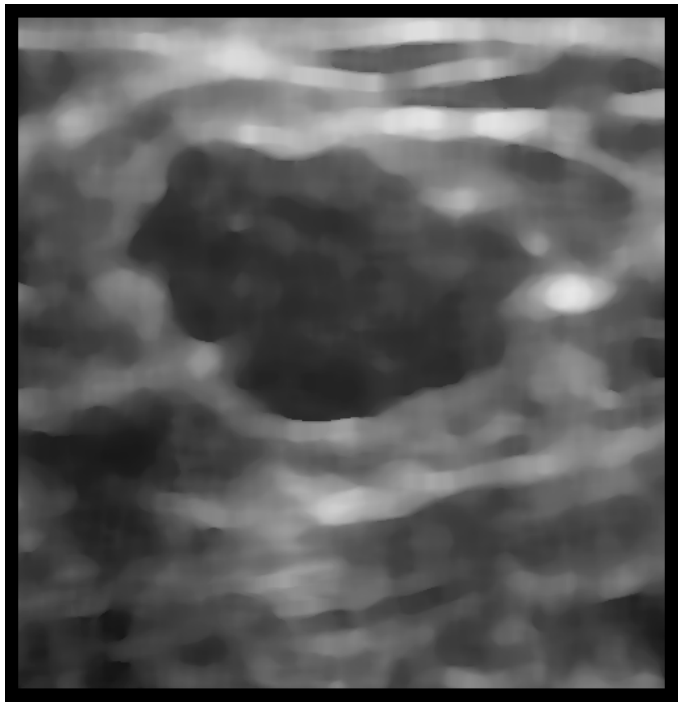
$$\|\nabla u\| = \left(\min\left(\frac{u_{i,j}^n - u_{i-1,j}^n}{h_1},0\right)\right)^2 + \left(\max\left(\frac{u_{i+1,j}^n - u_{i-1,j}^n}{h_1},0\right)\right)^2$$

$$+\left(\min\left(\frac{u_{i,j}^n - u_{i,j-1}^n}{h_2},0\right)\right)^2 + \left(\max\left(\frac{u_{i,j+1}^n - u_{i,j}^n}{h_2},0\right)\right)^2$$

Propagación de frentes

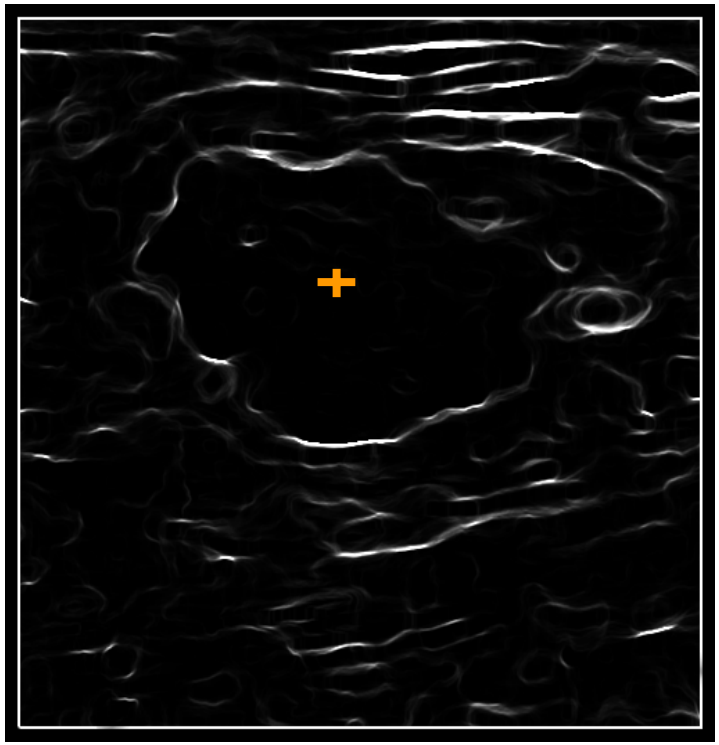
Crecimiento de regiones

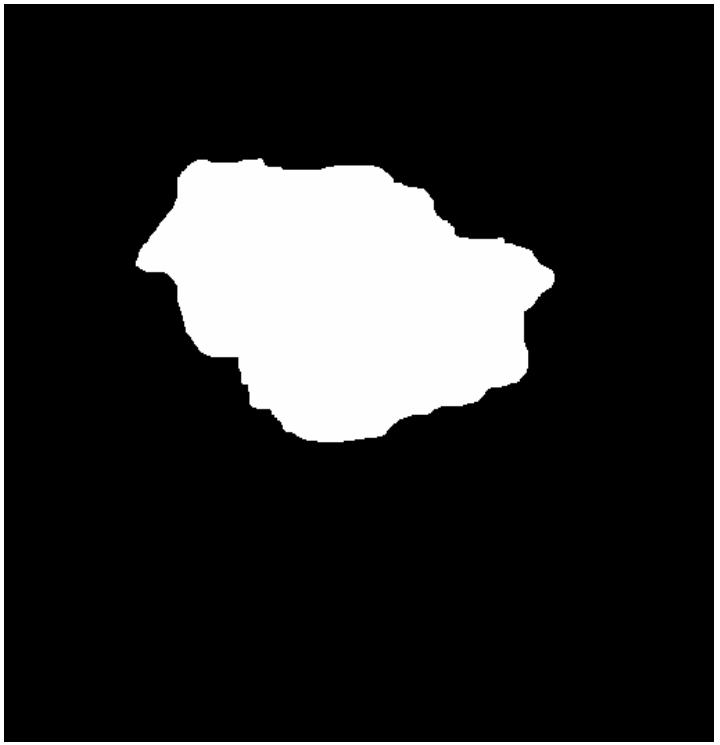




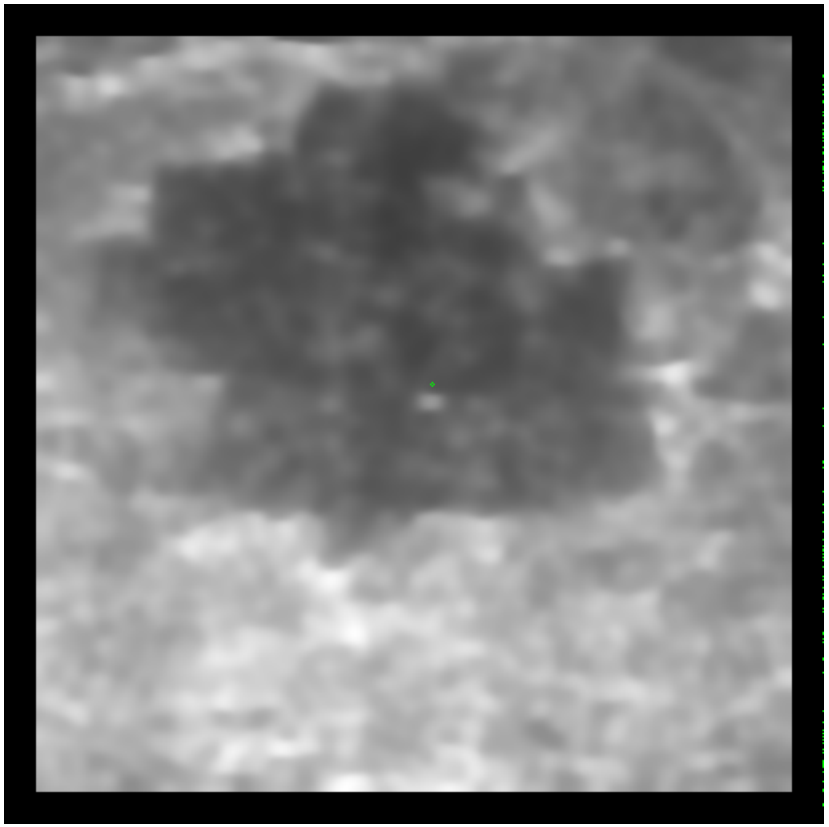
Propagación de frentes

Crecimiento de regiones





Propagación de frentes



Evolución del frente

Propagación de frentes

Evolución del frente