

La place

ECUACIÓN DE LAPLACE  
DIFERENCIAS FINITAS

$$\frac{\partial^2 u}{\partial x^2} + \frac{\partial^2 u}{\partial y^2} = 0$$

Placa delgada  
aislada  
Térmicamente

m puntos (interiores)  
m+2 pto

n pto (interiores)  
n+2 pto

$i = 1 : n+2$   
 $u(i, 1) = u_c$   
 $u(i, m+2) = u_d$   
 $j = 1 : m+2$   
 $u(1, j) = u_a$   
 $u(n+2, j) = u_b$

$$T = (u_a + u_b + u_c + u_d) / 4$$

Fórmula 2:

$$u_{i-1,j} + u_{i,j+1} + u_{i+1,j} + u_{i,j-1} - 4 u_{i,j} = 0$$

$$u_{i,j} = \frac{1}{4} (u_{i-1,j} + u_{i,j+1} + u_{i+1,j} + u_{i,j-1})$$