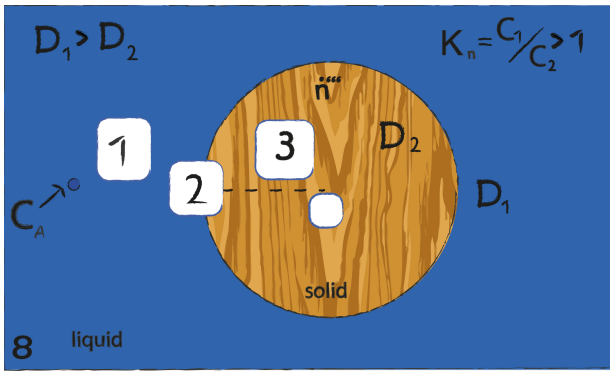
Diffusion: Task 8



The image describes a circular body surrounded by a liquid phase, whose diffusion coefficient is higher than the solid material and on the interface $C_2 < C_1$. Inside the solid body there is a homogeneous material production

1 

There is a fixed concentration with continuous mass production that means continuous flux from equation

$$\dot{n} = A * D * (\delta C / \delta V)$$

Consequetly, the line should be positive up.

2 

The diffusion coefficient in 2 is smaller than in 1 , so the slope in 2 is steeper than in 1. On the interface, the concentration in 1 is larger than in 2

3 

Due to the material production. The concentration gradient increases with the radius

4 

due to symmetry reasons, the concetration gradient must be zero in the center