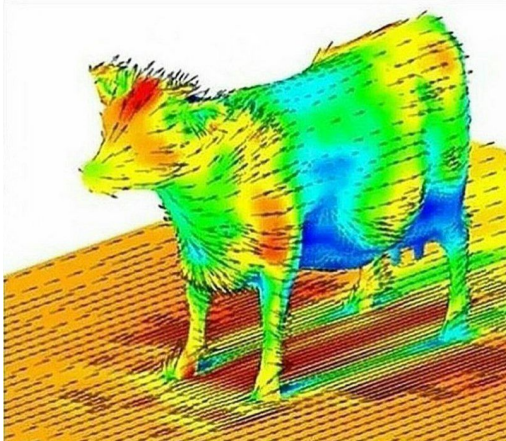


# Equations of mathematical physics

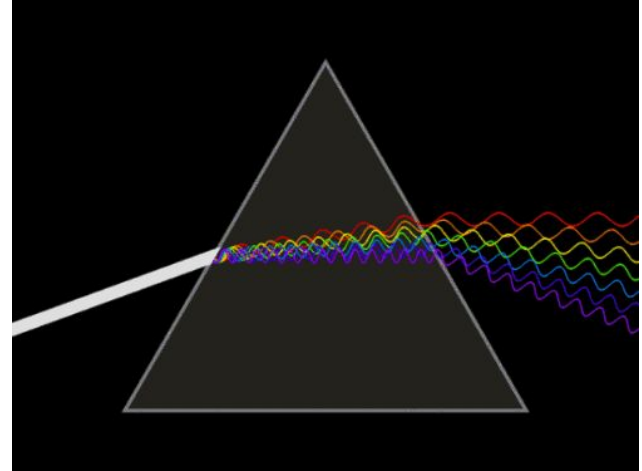


by Sukhorukov D.,  
21114

# The Laplace equation

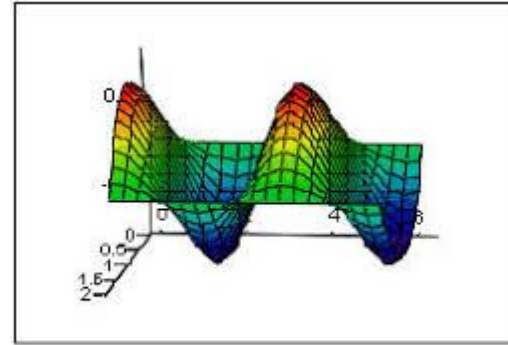
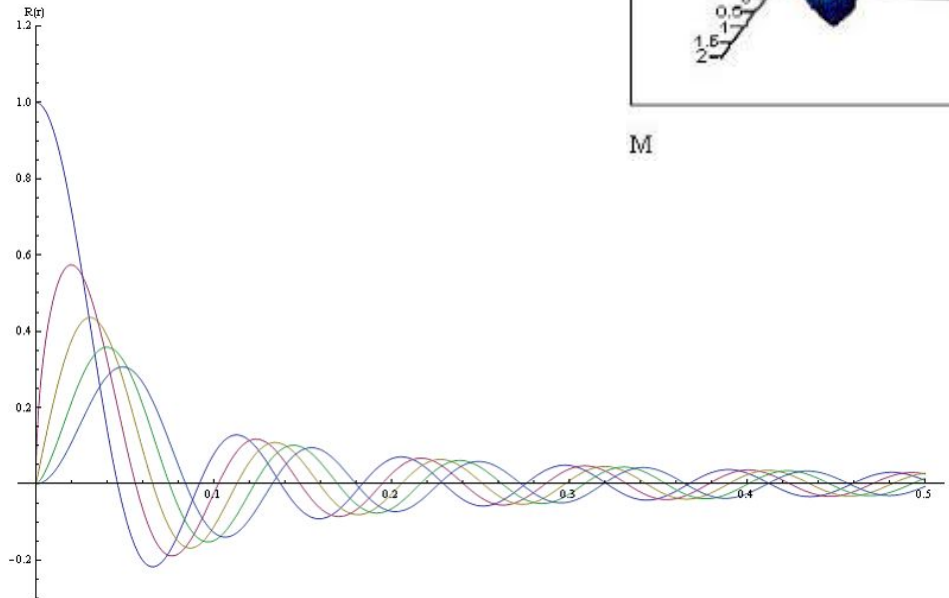
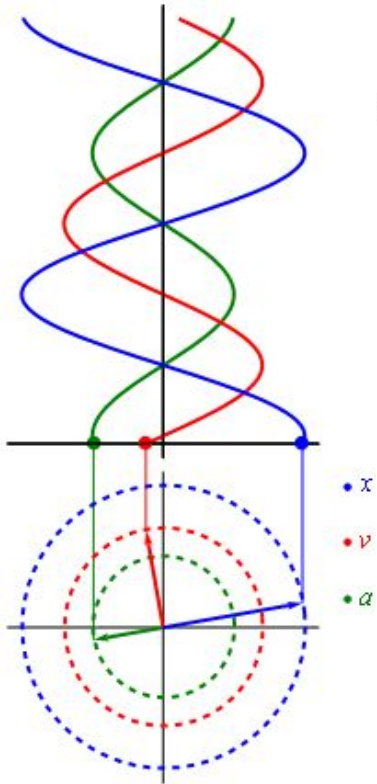
$$\Delta u \equiv \frac{\partial^2 u}{\partial x^2} + \frac{\partial^2 u}{\partial y^2} + \frac{\partial^2 u}{\partial z^2} = 0$$

$$\Delta = \frac{\partial^2}{\partial x^2} + \frac{\partial^2}{\partial y^2} + \frac{\partial^2}{\partial z^2}$$



# The wave equation

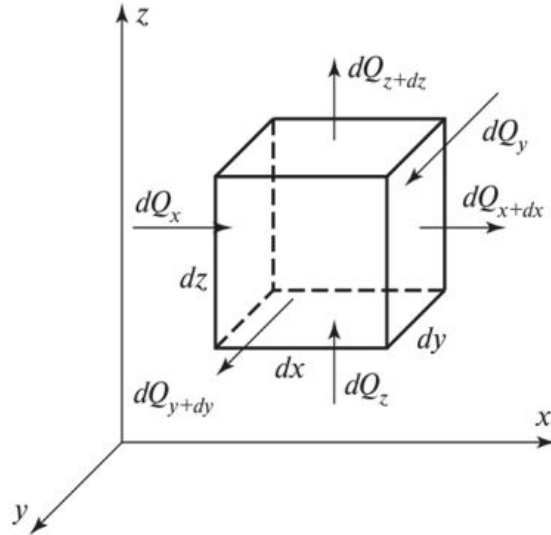
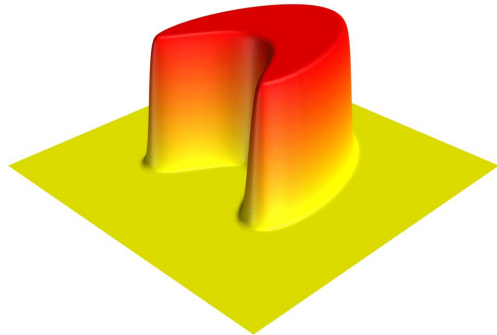
$$\Delta \xi - \frac{1}{v^2} \frac{\partial^2 \xi}{\partial t^2} = 0$$



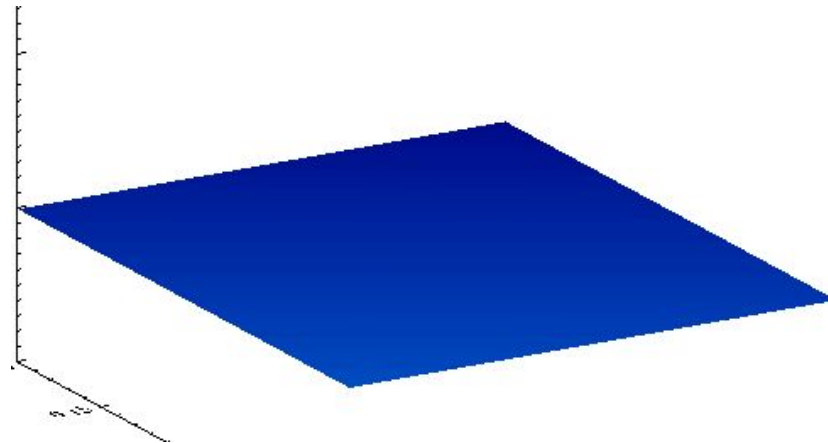
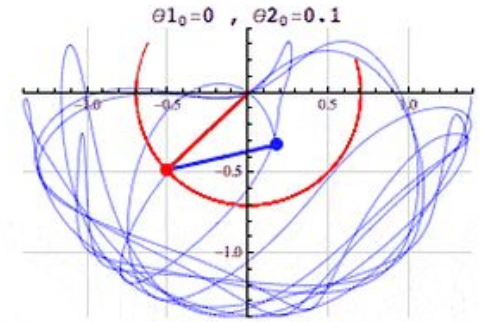
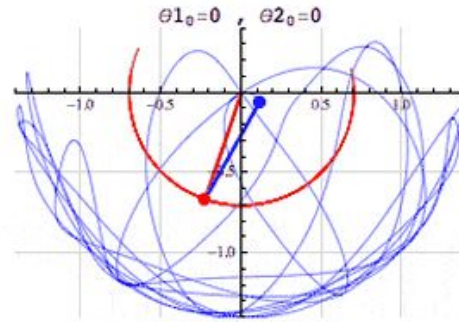
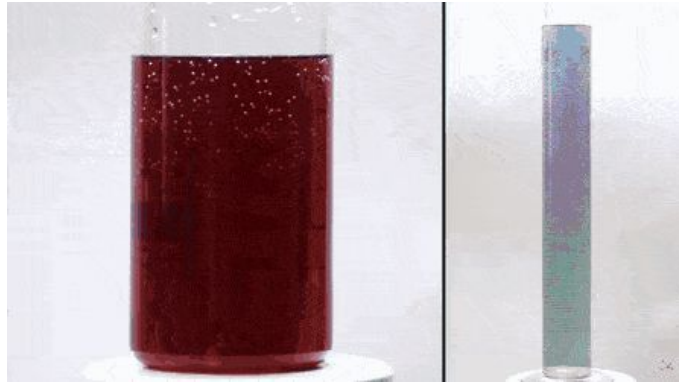
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The equation of thermal conductivity (The Fourier equation)

$$\frac{\partial u}{\partial t} = a^2 \frac{\partial^2 u}{\partial x^2}$$



# Differential equations in nature



Thank you for your  
attention