

Answer on Question #49214-Physics-Mechanics-Kinematics-Dynamics

Why the length of a simple pendulum decrease in winter and increase in summer?? Basically we know length is unchanged. But what's the reason for this change?

Answer

The length of a simple pendulum depends on a temperature:

$$l = l_0(1 + \alpha T),$$

where T is the temperature and α is the linear coefficient of thermal expansion.

$$[\alpha] = K^{-1}.$$

During winter the temperature decrease and length of a simple decrease too. During summer the temperature increase and length of a simple increase too.

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