Abstract

Activities of human climbing up stair on the potential energy saving which can be utilized as a renewable alternative energy sources. In this final project, the potential of potential energy of the human climbing up stair is indicated by motion of climbing up stair patterns and the potential potential energy.

potential energy potential on the motion of human climbing up stair motion obtained by analyzing the kinematics of human climbing up stair using the principles of motion vectors. The model of motion of climbing up stair were observed using a video camera placed on the lateral side (saggital plane) to obtain the position data x and y coordinates of 4 points on the body segments. Data collection was performed on three normal male with a three-speed variation. This data was used as input for a pattern climbing up stair motion as indicated by the displacement trajectory position, linear velocity and linear acceleration of the center of mass of each body part. Then potential energy can be calculated.

The result of this final project are: pattern climbing up stair motion (position, velocity, and acceleration linear), and potential energy of each body part. This results can be used in basic design power of human climbing up stair motion.

Key word : kinematic, motion of climbing up stair, patterns, potential energy