DESIGNING AND MODELING THE RATIO OF PLANETARY GEAR DESIGN TO DETERMINE TRANSMISSION RATIO AND ROTATIONAL GENERATOR

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ABSTRACT
Flywheel hybrid is a type of hybrid vehicle that uses a flywheel to store and release energy. In charging mode flywheel, flywheel storing kinetic energy derived from braking (regenerative breaking) or the rest of the engine thrust. Problems flywheel hybrid transmission one of which is carried out when the flywheel energy discharge. In this condition, the wheels drive change and follow the driving cycle flywheel rotation slowed due to discharge energy. It is necessary that the transmission system can deliver round of the flywheel to the drive wheel continuously. Ratios must be met continuously as well. Transmission system that can do that is Continously Variable Transmission (CVT). Of the various types of existing CVT selected planetary gear system (PGS).

The purpose of this final project, to determine the transmission ratio of the planetary gear from the flywheel to the drive wheel discharge condition, the ratio of the design of the planetary gear design and observe the changes in rotation and torque generator that is used to adjust the transmission ratio of the planetary gear. To obtain the ratio of the planetary gear design, made a graph of the results of the generator power planetary gear ratio. Then the ratio modeling is conducted to determine the resulting change in generator .. In the planetary gear configuration flywheel mounted on the carrier, the ring gear on the output shaft as the drive wheel. While the sun gear will be
installed generators. Generator controls the rotation round the sun gear so that the ratio of input to output can be varied continuously.

The results of this final project is a planetary gear transmission ratio of the maximum to the minimum obtained 10-0.8. The ratio of the planetary gear design used is 4, while the generator speed changes 50900-350 obtained with a torque of 370Nm changes.

Key Words: Continuously variable transmission; Flywheel hybrids; Generator; Planetary gear.