ABSTRACT

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Study Program	:	*Electrical Engineering*
Title	:	*Analysis Of Comparative Effect Of Tilt Angle Of Solar Panel Type Silicone Monocrystalline With Silicone Polycrystalline On Output Power*

In the current technological development, the need for electrical energy is increasing. Renewable energy (RE), especially solar energy, is one of the promising solutions. Solar power plants (PLTS) use solar panels to convert solar energy into electricity. Factors such as monocrystalline and polycrystalline panel types and sunlight intensity affect the output of solar panels. Therefore, an analysis of the output power results was carried out by comparing the types of solar panels between monocrystalline and polycrystalline as well as the tilt angles of moving angle and fixed angle solar panels. The method used in this research is real time measurement and simulink simulation with angle variation. The analysis results show that the optimal angle for monocrystalline and polycrystalline solar panels is 90°, and the optimal time is at 12:00 WIB. The results showed that the output power of monocrystalline solar panels is higher, with a comparison of real time power results at a moving angle of monocrystalline of 16.41 W and polycrystalline of 14.16 W, for a fixed angle of monocrystalline solar panels of 19,54 W and polycrystalline of 16,45 W. while the simulation results for moving angles of monocrystalline solar panels of 17.55 W and polycrystalline of 15.25 W, for fixed angles of monocrystalline solar panels of 19,88 W and polycrystalline of 18,57 W.

Keywords: Renewable Energy (RE), Monocrystalline, Polycrystalline, Tilt Angle, Output Power.