Peningkatan Daya Keluar Panel Surya Melalui Penerapan Reflektor Cermin Cekung Dilapisi Aluminium Foil Atau Kaca Film

TUGAS AKHIR

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Judul	**Peningkatan Daya Keluar Pada Panel Surya Melalui Penerapan Reflektor Cermin Cekung dilapisi Aluminium Foil atau Kaca Film**	Prayoga Achmad
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Abstrak

Intensitas cahaya yang kurang pada panel surya akan menyebabkan menurunnya daya keluaran sehingga Penelitian ini bertujuan untuk meningkatkan daya keluar panel surya 10 WP dengan meningkatkan intensitas panel surya menggunakan reflektor berupa cermin cekung, cermin cekung dilapisi aluminium foil, dan cermin cekung dilapisi kaca film jenis *silver mirror* untuk meningkatkan daya panel surya. Lapisan aluminium foil dan kaca film dapat membantu meningkatkan intensitas cahaya dari panel surya. Metode eksperimental dilakukan dengan memasang reflektor cermin cekung tanpa lapisan, reflektor cermin cekung dilapisi kaca film dan reflektor cermin cekung dilapisi aluminium foil pada panel surya dan mengukur tegangan, arus, intensitas cahaya, dan suhu untuk mendapatkan daya keluar. Pengukuran dilakukan secara bersamaan, pengukuran dilakukan setiap jam dari jam 9 sampai 15 selama 3 hari. Hasil penelitian menunjukkan bahwa perbandingan persentase peningkatan daya dengan penerapan reflektor cermin cekung, cermin cekung dilapisi kaca film dan cermin cekung dilapisi aluminium foil sebesar 0,756%, 2,832%, 0,8301%. Kaca Film dapat meningkatkan nilai intensitas dan daya yang lebih besar dari ketiga jenis reflektor.

Kata Kunci: Aluminium foil, Kaca film, Persentase peningkatan daya keluar, Panel surya, Reflektor cermin cekung, Reflektor cermin cekung,

Title	***Increasing the output power of solar panels through the application of concave mirror reflectors coated with aluminum foil or glass film***	Prayoga Achmad
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Abstract

Insufficient light intensity on solar panels will cause a decrease in output power, so this research aims to increase the output power of 10 WP solar panels by increasing the intensity of solar panels using reflectors in the form of concave mirrors, concave mirrors coated with aluminum foil, and concave mirrors coated with silver mirror type glass film. To increase the power of solar panels. Layers of aluminum foil and window film can help increase the light intensity from solar panels. The experimental method was carried out by installing an uncoated concave mirror reflector, a concave mirror reflector coated with glass film and a concave mirror reflector coated with aluminum foil on a solar panel and measuring voltage, current, light intensity and temperature to obtain the output power. Measurements were carried out simultaneously, every hour from 9 to 15 for three days. The research results show that comparing the percentage increase in power by applying a concave mirror reflector, a concave mirror coated with glass film, and a concave mirror coated with aluminum foil is 0.756%, 2.832%, and 0.8301%. Window film can increase the intensity and power values that are greater than the three types of reflectors.

Keywords: Aluminum foil, Concave mirror reflector, Solar panel, Concave mirror reflector, Percentage increase in output power, Window film