Desain kapasitas baterai untuk mengurangi fluktuasi daya pembangkit PV sesuai pola pembangkitan tertentu = Battery capacity design for pv power fluctuation reduction based on generation profile

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Abstrak

[Salah satu permasalahan dengan tenaga surya adalah perubahan-perubahan daya yang dibangkitkan. Karena tidak ada jaminan bahwa sinar matahari akan tersedia untuk semua jam kerja, perlu dipasangkan pada sebuah panel tenaga surya suatu sistim penyimpanan energi untuk memperbesar kualitas daya yang dibangkitkan. Pemilihan jenis dan ukuran baterai yang optimal merupakan suatu permasalahan utama yang akan dibahas di dalam skripsi ini. Sebuah metode pemilihan ukuran baterai yang didasarkan pada profil pembangkitan akan dibahas. Skripsi ini akan mencakup gambaran singkat mengenai PV dan baterai; pembahasan tentang pemilihan ukuran baterai yang sudah ada; metode pemilihan jenis dan ukuran baterai yang baru; dan hasil Simulink dari ukuran baterai yang diusulkan
.....A major problem with solar power is its intermittency and unreliability. Since there is no guarantee that sunlight will be available during all hours of operations, it is necessary to attach an energy storage system to a PV panel to improve its generation profile. Optimal selection and sizing of the battery becomes an issue which will be discussed in this thesis. A new generation-based sizing method will be discussed. This thesis will include a brief overview on PV and batteries; literature review on existing sizing methods; battery selection and sizing; and Simulink simulations of the proposed battery size.;A major problem with solar power is its intermittency and unreliability. Since there is no guarantee that sunlight will be available during all hours of operations, it is necessary to attach an energy storage system to a PV panel to improve its generation profile. Optimal selection and sizing of the battery becomes an issue which will be discussed in this thesis. A new generation-based sizing method will be discussed. This thesis will include a brief overview on PV and batteries; literature review on existing sizing methods; battery selection and sizing; and Simulink simulations of the proposed battery size., A major problem with solar power is its intermittency and unreliability. Since there is no guarantee that sunlight will be available during all hours of operations, it is necessary to attach an energy storage system to a PV panel to improve its generation profile. Optimal selection and sizing of the battery becomes an issue which will be discussed in this thesis. A new generation-based sizing method will be discussed. This thesis will include a brief overview on PV and batteries; literature review on existing sizing methods; battery selection and sizing; and Simulink simulations of the proposed battery size.]