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**Performance Analysis of Reference Current Generation Methods with PI Controller for Single-Phase Grid Connected PV Inverter System**

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**Abstract**

In this research, a novel remarkable current generating method for proficient functioning of the single stage PV inversion framework is discussed. Mostly, the genuine/responsive power conveyed to the single stage inversion system is managed for incorporating DG with electricity line. The proposed PI controller has various goals to accomplish maximum coordination among single stage PV system and DG with limited Total Harmonic Distortion (THD), enduring blunder and velocity. The result acquired with the proposed strategy in simulation is contrasted with different conventional systems to validate its superiority in terms of proficiency and precision. MATLAB simulation is embraced to verify the proposed methodology and the relative investigations have been done. The best outcome with less THD and quick responses are noted when PI combined with SRPC approach.

**Keywords:**

Double-line-frequency, Harmonic current, PI Controller, Power pulsation, Total Harmonic Distortion.

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