



Contribution ID: 99

Type: **Poster Presentation**

## High Burst Rate Charging System for the Lithium Lens Power Supply

*Wednesday 6 June 2018 13:30 (1h 30m)*

Two pulsed power systems have been upgraded for the g-2 experiment at Fermilab. The Pbar Lithium Lens supply previously ran with a half sine pulsed current of 75 kA peak, 400  $\mu$ s duration and a repetition rate of 0.45 pps. For the g-2 experiment, the peak current was reduced to 25 kA, but the repetition rate was increased to an average of 12 pps. Furthermore, the pulses come in a burst of 8 with 10 ms between each of 8 pulses and then a delay until the next burst. The charging rate has still gone up by a factor of 20 due to the burst speed. A major challenge for the upgrade was to charge the capacitor bank while keeping the power line loading and charging supply cost to a reasonable level. This paper will discuss how those issues were solved and results from the operational system.

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**Session Classification:** Poster 3 - Power Modulator Systems and Applications