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Zhang et al. (43) **Pub. Date: Nov. 3, 2022**(54) **PARALLELED DC-DC CONVERTERS WITH
CIRCULATING CURRENT SUPPRESSION
CIRCUIT****Publication Classification**(51) **Int. Cl.**
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Spa, NY (US); **Luca Tonini**, Glenville,
NY (US); **Hao Tu**, Raleigh, NC (US)(21) Appl. No.: **17/621,073**(22) PCT Filed: **Aug. 13, 2019**(86) PCT No.: **PCT/US2019/046353**

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24, 2019.(57) **ABSTRACT**

A converter includes a DC bus, a first DC-DC converter, a second DC-DC converter, and a plurality of circulating current suppression circuits. The first DC-DC converter is coupled to the DC bus and includes a first plurality of switches. The second DC-DC converter is coupled to the DC bus in parallel with the first DC-DC converter. The second DC-DC converter includes a second plurality of switches. The plurality of circulating current suppression circuits are coupled to the DC bus and are further respectively coupled to the first DC-DC converter and the second DC-DC converter. Each of the plurality of circulating current suppression circuits has a resonant frequency at or around a switching frequency for the first and second pluralities of switches. The plurality of circulating current suppression circuits is configured to suppress current at or around the switching frequency and pass at least direct current.

