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(19) **United States**(12) **Patent Application Publication**  
**SCHWABE**(10) **Pub. No.: US 2023/0231376 A1**(43) **Pub. Date: Jul. 20, 2023**(54) **METHOD AND APPARATUS FOR  
ESTIMATING STRESS ON CAPACITOR**(52) **U.S. Cl.**CPC ..... **H02H 7/12** (2013.01); **H02H 1/0007**  
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Villach (AT)(72) Inventor: **Benjamin SCHWABE,** Muenchen (DE)(21) Appl. No.: **17/577,191**(22) Filed: **Jan. 17, 2022****Publication Classification**(51) **Int. Cl.****H02H 7/12** (2006.01)**H02H 1/00** (2006.01)(57) **ABSTRACT**

A method and apparatus for estimating stress on capacitor is provided. A power converter may include an input terminal for receiving an input voltage, a power stage coupled to the input terminal, a capacitor coupled to the power stage, a controller configured to control the power stage to generate an output voltage at the capacitor as a function of the input voltage, and a stress monitor module. The stress monitor module is configured to determine a stress energy metric for the capacitor based on variations in the output voltage and identify a first fault condition based on the stress energy metric.

