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(54) **SYSTEM AND METHOD FOR VEHICLE SAFETY LIGHTING**

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(57) **ABSTRACT**

Methods and systems for vehicle safety lighting are disclosed, including a system having a multi-axis accelerometer that detects acceleration of the vehicle along a first axis and a second axis normal to the first axis, and outputs a corresponding first axis acceleration measurement and a second axis acceleration measurement. A controller is coupled to the multi-axis accelerometer, and to an array of light emitter elements (LELs). The controller is configured to determine a vehicle deceleration, based at least in part on a combination of the first axis acceleration measurement and second axis acceleration measurement, and to detect the vehicle deceleration exceeding a brake light threshold and, based at least in part on the detection, output a deceleration light signal to the array of LELs. Digital filtering prevents operation of the safety lighting by accelerometer outputs unrelated to axial deceleration, such as will occur upon encountering a hill, or, in the case of a motorcycle or the like, leaning into a turn.

20 Claims, 6 Drawing Sheets