Title (en)

METHOD FOR UPDATING THE REFERENCE THRESHOLD OF AT LEAST ONE OPERATIONAL PARAMETER, PROTECTION UNIT FOR THE MITIGATION OF A SINGLE EVENT LATCHUP (SEL) IN AN ELECTRONIC DEVICE USING THE REFERENCE THRESHOLD AND ARRANGEMENT FOR THE MITIGATION OF A SINGLE EVENT LATCHUP (SEL) IN AN ARRAY

Title (de)

VERFAHREN ZUM AKTUALISIEREN DES REFERENZSCHWELLENWERTS VON MINDESTENS EINEM BETRIEBSPARAMETER, SCHUTZEINHEIT ZUM VERMINDERN EINES EINZELNEN LATCHUPS (SEL) IN EINER ELEKTRONISCHEN VORRICHTUNG UNTER VERWENDUNG DES REFERENZSCHWELLENWERTS UND ANORDNUNG ZUM VERMINDERN EINES EINZELNEN LATCHUPS (SEL) IN EINER ANORDNUNG

Title (fr)

PROCÉDÉ DE MISE À JOUR DU SEUIL DE RÉFÉRENCE D'AU MOINS UN PARAMÈTRE OPÉRATIONNEL, UNITÉ DE PROTECTION POUR L'ATTÉNUATION D'UN DÉCLENCHEMENT DE STRUCTURE PARASITE (SEL) DANS UN DISPOSITIF ÉLECTRONIQUE UTILISANT LE SEUIL DE RÉFÉRENCE ET AGENCEMENT POUR L'ATTÉNUATION D'UN DÉCLENCHEMENT DE STRUCTURE PARASITE (SEL) DANS UN RÉSEAU

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Application

EP 20807674 A 20201030

Priority

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- EP 2020080518 W 20201030

Abstract (en)

[origin: WO2021084073A1] An adaptive strategy is developed to optimize a current threshold that is taken as a reference to initiate a mitigation process, applying a self-adjustment throughout the lifetime of an electronic device (407) to protect against SEL phenomena in environments susceptible to ionizing radiation, such as satellites in terrestrial orbits. To calculate the current threshold, the method enters a Learning mode within time segments where the radiation flux is less than a predetermined radiation threshold. When the radiation flux exceeds the radiation threshold, the method enters a Protection mode during which the current threshold update is suspended and the last current threshold calculated above is used for the detection of a SEL event, in which case a mitigation process is triggered (317). Each device to be protected is equipped with a Protection Unit (405) which estimates (310) and updates (311) its own current threshold independently and in parallel with the others. An arrangement (406) that includes a set of devices to protect stores the Radiation Flux threshold value (401) and includes a Radiation Flux Meter (402) and a Radiation Flux Comparator (403) that provides a signal to each Protection Unit (405) indicating the relationship between the measured flux and the stored threshold.

IPC 8 full level

G11C 5/00 (2006.01); **H02H 3/10** (2006.01); **H02H 5/00** (2006.01)

CPC (source: EP)

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