

Title (en)
TRANSMISSION IONIZATION CHAMBER FOR THE ULTRA-HIGH-DOSE RANGE, ASSOCIATED METHOD FOR PRODUCTION, AND USE

Title (de)
TRANSMISSIONSIONISATIONSKAMMER FÜR DEN ULTRAHOCHDOSISBEREICH UND ZUGEHÖRIGES VERFAHREN ZUR HERSTELLUNG
SOWIE NUTZUNG

Title (fr)
CHAMBRE D'IONISATION À TRANSMISSION POUR LA PLAGE DES ULTRA-HAUTES DOSES ET SON PROCÉDÉ DE FABRICATION ET
D'UTILISATION

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Abstract (en)
[origin: WO2022179665A1] The invention relates to a transmission ionization chamber for the ultra-high-dose range, at least comprising an outer modular housing (1a, 1b) for shielding, which is equipped with shielding films for the passage of the ionizing radiation, and an inner modular housing (2a, 2b) made of a material having a resistivity of $\geq 107 \Omega \cdot \text{cm}$. The inner housing comprises form-locking retainers (2a, 2b) for two electrodes. The electrodes are produced from metal-coated plastic films and are electrically separated and spaced apart by means of an insulating ring (3) made of electrically insulating material, the insulating ring being disposed between the electrodes and, according to the invention, having a thickness in a range of 0.5 mm to 1.5 mm. The electrodes and shielding films are stretched out on carrier rings. A signal line and a voltage line for the electrodes and a ground line for the outer housing and for the shielding films are also comprised. For use in the ultra-high-dose range, the transmission ionization chamber is operated at a voltage of $\geq 300 \text{ V}$. The method according to the invention for producing the transmission ionization chamber for the ultra-high-dose range is characterized by the pretensioning of the films for the electrodes and the shielding films, which are subsequently glued to carrier rings. Furthermore, according to the invention the inner housing is to be additively manufactured.

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