Title (en)

USE OF THERMOPLASTIC POLYURETHANES FOR GENERATING ELECTRICAL ENERGY FROM WAVE ENERGY

Title (de)

VERWENDUNG VON THERMOPLASTISCHEN POLYURETHANEN ZUR ERZEUGUNG ELEKTRISCHER ENERGIE AUS WELLENENERGIE

Title (fr)

UTILISATION DE POLYURÉTHANES THERMOPLASTIQUES POUR PRODUIRE DE L'ÉNERGIE ÉLECTRIQUE À PARTIR DE L'ÉNERGIE DE LA HOULE

Publication

EP 2695210 A1 20140212 (DE)

Application

EP 12711387 A 20120326

Priority

- EP 11161504 A 20110407
- EP 2012055320 W 20120326
- EP 12711387 A 20120326

Abstract (en)

[origin: EP2509126A1] The process comprises providing a device comprising an electroactive polymer arranged between electrodes, transferring mechanical energy of sea waves on the polymer in the device, where the polymer is stretched from a minimum elongation to a maximum elongation as a result of mechanical action, applying a target electric charge on the polymer in the stretched state, where the electrical breakdown field strength of the polymer is not exceeded, and relaxing the stretched polymer from the maximum elongation to the minimum elongation as a result of decreasing mechanical action. The process comprises providing a device comprising an electroactive polymer arranged between electrodes, transferring mechanical energy of sea waves on the polymer in the device, where the polymer is stretched from a minimum elongation to a maximum elongation as a result of mechanical action, applying a target electric charge on the polymer in the stretched state, where the electrical breakdown field strength of the polymer is not exceeded, and relaxing the stretched polymer from the maximum elongation to the minimum elongation as a result of decreasing mechanical action, where a residual charge is discharged to the electroactive polymer during relaxing. The device comprises a buoy, an axially segmented chain of fluid-filled bodies made from a material comprising electroactive polymer, and an array of floating bodies connected by a swivel joint and having biased portions made of the an electroactive polymer comprising material. An independent claim is included for a device for obtaining electrical energy from kinetic energy of sea waves.

IPC 8 full level

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CPC (source: EP)

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