

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
13 July 2023 (13.07.2023)



(10) International Publication Number
WO 2023/133356 A3

(51) International Patent Classification:

G02F 1/141 (2006.01) G02F 1/135 (2006.01)
E06B 9/24 (2006.01) G02F 1/136 (2006.01)
G02F 1/1333 (2006.01) G06F 17/00 (2019.01)

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(21) International Application Number:

PCT/US2023/010510

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(22) International Filing Date:

10 January 2023 (10.01.2023)

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CV, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW.

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/298,116 10 January 2022 (10.01.2022) US

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(54) Title: COMPOSITE MATERIALS BASED ON FERROELECTRIC NEMATIC LIQUID CRYSTALS AND DEVICES INCLUDING SAME

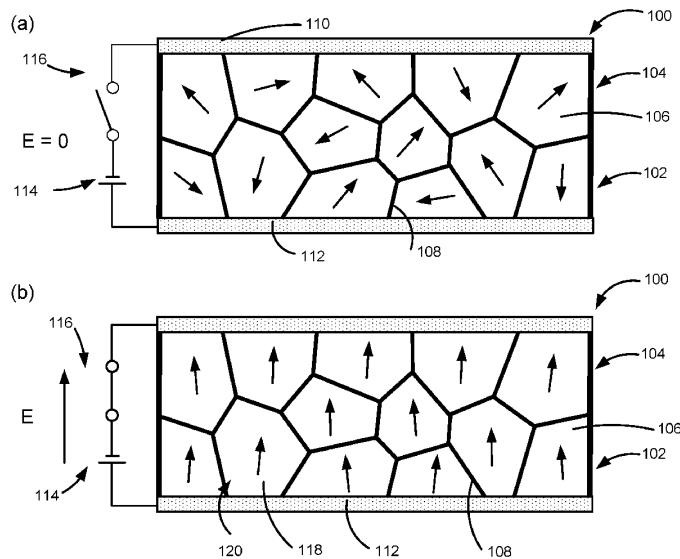


FIG. 1

(57) Abstract: Composite materials and devices including composite materials are disclosed. Exemplary composite materials include a porous material and ferroelectric nematic liquid crystal within pores of the porous material. The composite materials can be used in a variety of applications, such as capacitors, information storage and processing, actuators, sensors, electro-caloric devices, energy storage and/or conversion devices utilizing piezoelectric effects. The porous material can be a solid, a polymer, glassy, crystalline, amorphous, foam, an aerogel or ceramic.

[Continued on next page]

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, CV, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, ME, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

- *with international search report (Art. 21(3))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

(88) Date of publication of the international search report:

24 August 2023 (24.08.2023)