Title (en)

Security element

Title (de)

Sicherheitselement

Title (fr)

Elément de sécurité

Publication

EP 1972463 B1 20130814 (DE)

Application

EP 08004395 A 20080310

Priority

DE 102007012042 A 20070313

Abstract (en)

[origin: EP1972463A2] The unit has a characteristic region (12) e.g. imprinted machine readable barcode, selectively influencing a penetrated electromagnetic radiation, and containing a material with a photonic band gap. The characteristic region selectively absorbs the electromagnetic radiation in a narrow spectral range that lies in an ultraviolet spectral range. The characteristic region is colorless at a visible spectral range, and forms an optically variable layer, which is arranged towards an observer under different angle of vision of different color impressions. An independent claim is also included for a method for producing a security feature of a security unit, a security paper, a security foil and a data carrier.

IPC 8 full level

B42D 15/00 (2006.01); **B42D 15/10** (2006.01)

CPC (source: EP US)

B42D 25/29 (2014.10 - EP); **B42D 25/41** (2014.10 - US); B42D 25/382 (2014.10 - EP); B42D 25/387 (2014.10 - EP); B42D 2033/12 (2022.01 - EP); B42D 2033/20 (2022.01 - EP); B42D 2035/24 (2022.01 - EP)

Citation (examination)

- WO 2004096894 A2 20041111 - MERCK PATENT GMBH [DE], et al
- WO 2008098339 A1 20080821 - UNIV TORONTO [CA], et al
- WO 2007079453 A2 20070712 - PPG IND OHIO INC [US]
- WO 2008097397 A1 20080814 - PPG IND OHIO INC [US]
- YOSHINO K ET AL: "Mechanical tuning of the optical properties of plastic opal as a photonic crystal", JAPANESE JOURNAL OF APPLIED PHYSICS, JAPAN SOCIETY OF APPLIED PHYSICS, JP, vol. 38, no. 7A , PART 2, 1 July 1999 (1999-07-01), pages L786 - L788, XP002180777, ISSN: 0021-4922, DOI: 10.1143/JJAP.38.L786
- ARSENAULT A C ET AL: "From colour fingerprinting to the control of photoluminescence in elastic photonic crystals", NATURE MATERIALS, NATURE PUBLISHING GROUP, GB, vol. 5, no. 3, 1 March 2006 (2006-03-01), pages 179 - 184, XP002483777, ISSN: 1476-1122, DOI: 10.1038/NMAT1588

Cited by

US9411074B2; DE102013225517B4; CN114236811A; EP2662806A1; EP3098086A1; DE102010045569A1; US2012139230A1; WO2010046125A3; WO2010142391A1; DE102009016525A1; WO2010115809A1; DE102009016533A1; WO2010115803A2; EP2818919A1; DE102010063982A1; US10482361B2; DE102010063982B4; WO2010046125A2; DE102008053099A1

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR

DOCDB simple family (publication)

EP 1972463 A2 20080924; **EP 1972463 A3 20110622**; **EP 1972463 B1 20130814**; DE 102007012042 A1 20080918

DOCDB simple family (application)

EP 08004395 A 20080310; DE 102007012042 A 20070313