

Title (en)
SECURITY ELEMENT

Title (de)
SICHERHEITSELEMENT

Title (fr)
ÉLÉMENT DE SÉCURITÉ

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Application
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Abstract (en)
[origin: WO2008000351A2] The invention relates to a security element for antifalsification papers, valuable documents and the like, said security element comprising a micro-optical moiré magnifying arrangement comprising a pattern image (30) which consists of a planar periodical or at least locally periodical arrangement of a plurality of micropattern elements (36, 38), and a planar periodical or at least locally periodical arrangement of a plurality of microfocussing elements for the moiré-magnified observation of the micropattern elements (36, 38) of the pattern image. The pattern image (30) contains at least two partial regions (32, 34) comprising micropattern elements (36, 38) differing from each other in the contrast thereof. The shape of the partial regions (32, 34) forms macroscopic image information, in the form of symbols, patterns or codes, identifiable by the differences in contrast of the micropattern elements.

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Citation (opposition)
Opponent :
• WO 02101669 A2 20021219 - ECOLE POLYTECH [CH]
• US 5995638 A 19991130 - AMIDROR ISAAC [CH], et al
• WO 0139138 A1 20010531 - ECOLE POLYTECH [CH]
• US 2005180020 A1 20050818 - STEENBLIK RICHARD A [US], et al
• US 6381071 B1 20020430 - DONA MARINUS JOSEPHUS JAKOBUS [NL], et al
• US 3357772 A 19671212 - ROWLAND WILLIAM P
• DE 10100692 A1 20021128 - HORNSCHUCH AG K [DE]
• ISAAC AMIDROR: "New print-based security strategy for the protection of valuable documents and products using moire intensity profiles", PROCEEDINGS OF SPIE; [PROCEEDINGS OF SPIE 4677, vol. 4677, 18 April 2002 (2002-04-18), pages 89 - 100, XP055390027
• VICTOR OSTROMOUKHOV ET AL: "Artistic screening", SIGGRAPH 95 CONFERENCE PROCEEDINGS : AUGUST 6 - 11, 1995, [LOS ANGELES, CALIFORNIA]; [COMPUTER GRAPHICS PROCEEDINGS (SIGGRAPH)], 15 September 1995 (1995-09-15), pages 219 - 228, XP058296066
• HUTLEY M C ET AL: "The moire magnifier", PURE AND APPLIED OPTICS. JOURNAL OF THE EUROPEAN OPTICAL SOCIETYPART A, vol. 3, no. 2, 1 March 1994 (1994-03-01), pages 133 - 142, XP020071153
• ISAAC AMIDROR: "The Theory of the Moire Phenomenon", 1 January 2000, KLUWER ACADEMIC PUBLISHERS, ISBN: 0-7923-5950-X, XP055390051
• BRONSTEIN I; ET AL: "Taschenbuch der Mathematik, PASSAGE", 1987, article "TASCHENBUCH DER MATHEMATIK", pages: 192 - 193, XP002260213

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