Title (en)

ENRICHED SILICON PRECURSOR COMPOSITIONS AND APPARATUS AND PROCESSES FOR UTILIZING SAME

Title (de)

ANGEREICHERTE SILICIUMVORLÄUFERZUSAMMENSETZUNGEN SOWIE VORRICHTUNG UND VERFAHREN ZUR VERWENDUNG DAVON

Title (fr)

COMPOSITIONS DE PRÉCURSEUR DE SILICIUM ENRICHI ET APPAREIL ET PROCÉDÉS POUR LEUR UTILISATION

Publication

EP 3000123 A4 20161228 (EN)

Application

EP 14800248 A 20140521

Priority

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Abstract (en)

[origin: WO2014190087A1] Isotopically enriched silicon precursor compositions are disclosed, as useful in ion implantation to enhance performance of the ion implantation system, in relation to corresponding ion implantation lacking such isotopic enrichment of the silicon precursor composition. The silicon dopant composition includes at least one silicon compound that is isotopically enriched above natural abundance in at least one of Si, Si, and Si, and may include a supplemental gas including at least one of a co-species gas and a diluent gas. Dopant gas supply apparatus for providing such silicon dopant compositions to an ion implanter are described, as well as ion implantation systems including such dopant gas supply apparatus.

IPC 8 full level

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CPC (source: EP)

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Citation (search report)

- [XA] JP 2000345342 A 20001212 - NAT RES INST METALS
- [XA] US 2012142174 A1 20120607 - KAIM ROBERT [US], et al
- [Y] JP S6295820 A 19870502 - HITACHI LTD
- [Y] US 2008179545 A1 20080731 - PEREL ALEXANDER S [US], et al
- [X] SUZUKI H ET AL: "Formation of isotope controlled SiC thin film by plasma chemical vapor deposition and its characterization", APPLIED SURFACE SCIENCE, ELSEVIER, AMSTERDAM, NL, vol. 241, no. 1-2, 28 February 2005 (2005-02-28), pages 266 - 269, XP027771514, ISSN: 0169-4332, [retrieved on 20050228]
- [X] SENNIKOV P G ET AL: "Towards 0.99999Si", SOLID STATE COMMUNICATIONS, PERGAMON, GB, vol. 152, no. 6, 5 January 2012 (2012-01-05), pages 455 - 457, XP028396140, ISSN: 0038-1098, [retrieved on 20120110], DOI: 10.1016/J.SSC.2012.01.008
- [A] BULANOV A D ET AL: "Determination of Impurities in Monoisotopic Silicon Tetrafluoride", INORGANIC MATERIALS, NAUKA/INTERPERIODICA, MO, vol. 40, no. 7, 1 July 2004 (2004-07-01), pages 754 - 759, XP019297310, ISSN: 1608-3172
- See references of WO 2014190087A1

Designated contracting state (EPC)

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DOCDB simple family (application)

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