

Title (en)

IRON-RICH METALLIC GLASSES HAVING HIGH SATURATION INDUCTION AND SUPERIOR SOFT FERROMAGNETIC PROPERTIES AT HIGH MAGNETIZATION RATES.

Title (de)

EISENREICHE METALLISCHE GLÄSER MIT HOHER SÄTTIGUNGSINDUKTION UND GUTEN WEICHMAGNETISCHEN EIGENSCHAFTEN BEI HOHEN MAGNETISIERUNGSGESCHWINDIGKEITEN.

Title (fr)

VERRES METALLIQUES RICHES EN FER PRESENTANT UNE INDUCTION DE SATURATION ELEVEE AINSI QUE DES PROPRIETES FERROMAGNETIQUES PLUS DOUCES SUPERIEURES A DES VITESSES DE MAGNETISATION ELEVEES.

Publication

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Application

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Priority

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Abstract (en)

[origin: WO9101563A1] A magnetic metallic glass alloy exhibits, in combination, high saturation induction and low magnetic anisotropy energy. The alloy has a composition described by the formula $\text{Fe}_a\text{Co}_b\text{B}_c\text{Si}_d\text{Ce}_e$, where "a" - "e" are in atom percent, "a" ranges from about 72 to about 84, "b" ranges from about 2 to about 8, "c" ranges from about 11 to about 16, "d" ranges from about 1 to about 4, and "e" ranges from 0 to about 4, with up to about 1 atom percent of Mn being optionally present. Such an alloy is especially suited for use in large magnetic cores associated with pulse power applications requiring high magnetization rates. Examples of such applications include high power pulse sources for linear induction particle accelerators, induction modules for coupling energy from the pulse source to the beam of these accelerators, magnetic switches in power generators in inertial confinement fusion research, magnetic modulators for driving excimer lasers, and the like.

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