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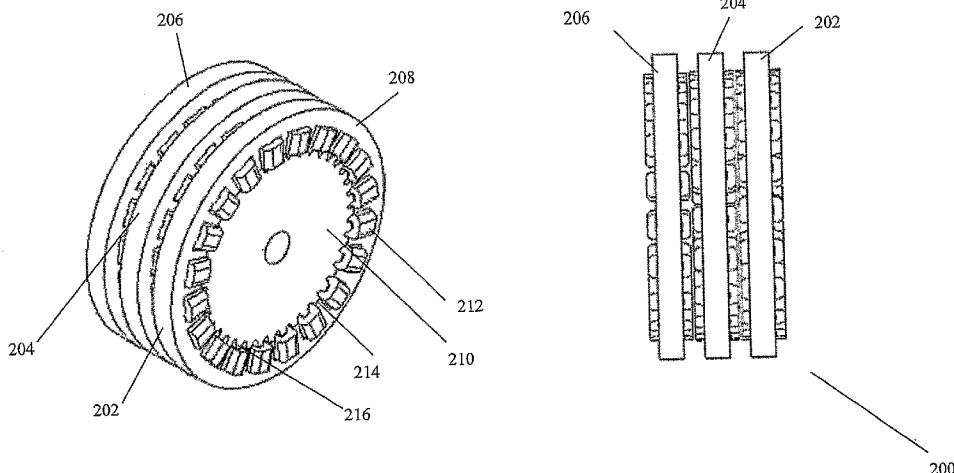
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(54) Title: SWITCHED RELUCTANCE MACHINE AND METHOD OF OPERATION THEREOF



(57) Abstract: The present invention provides an S SRM (switched reluctance machine), which supports one or more phases and each phase comprises a stator, a rotor and coils. The stator is hollow, cylindrical and comprises stator poles extending inwards, such that a recess is formed between adjacent stator poles. The coils are wound on the stator poles and occupy the recess. The rotor is positioned inside the stator and has poles extending outwards. The rotor and stator poles subtend an angle having a maximum value of 0.5 electrical pole pitches at a center of rotation. The different phases are distributed along the axis of the S SRM. The rotor is rotated by a reluctance torque generated by energizing a phase in a current controlled manner until the rotor rotates through a minimum commutation angle required to maintain motion; de-energizing the phase by freewheeling it by using the energy stored in it and simultaneously energizing a second sequentially adjacent phase.

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INTERNATIONAL SEARCH REPORT

International application No.

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A. CLASSIFICATION OF SUBJECT MATTER

IPC: H02P 1/46(2007.01),3/18(2007.01)

USPC: 318/701

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 318/701, 254, 700

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EAST

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4,500,824 (MILLER) 19 February 1985 (19.02.1985), see entire document	1-15
A	US 5,789,893 (WATKINS) 4 August 1998 (04.08.1998), see entire document	1-15
A	US 5,793,179 (WATKINS) 11 August 1998 (11.08.1998), see entire document	1-15
A	US 6,049,181 (KOLOMEITSEV) 11 April 2000, (11.04.2000), see entire document	1-15

Further documents are listed in the continuation of Box C.

See patent family annex.

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