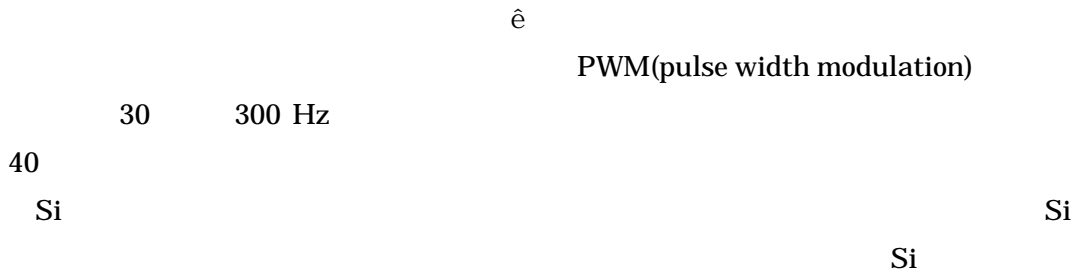


Effects of Core Materials on Efficiency of Inverter Drive Motor



Synopsis :

Properties of a 3-phase 6-pole 400 W inverter drive motor, using 6 kinds of non-oriented Si steel sheets as stator core materials, were investigated. PWM (pulse width modulation) inverter wave frequency was changed from 30 to 300 Hz and a frequency of 40 times of the fundamental inverter frequency was adopted as the carrier wave. It was found that the effect of Si content on motor efficiency is small when the PWM frequency is low, while when the PWM frequency is high, the motor efficiency rises as Si content of the core material increases. There exists an optimum Si content of the material depending on the design of the flux density of a motor. Both reduction in the thickness

インバータモータ効率に及ぼす 無方向性電磁鋼板素材の影響*

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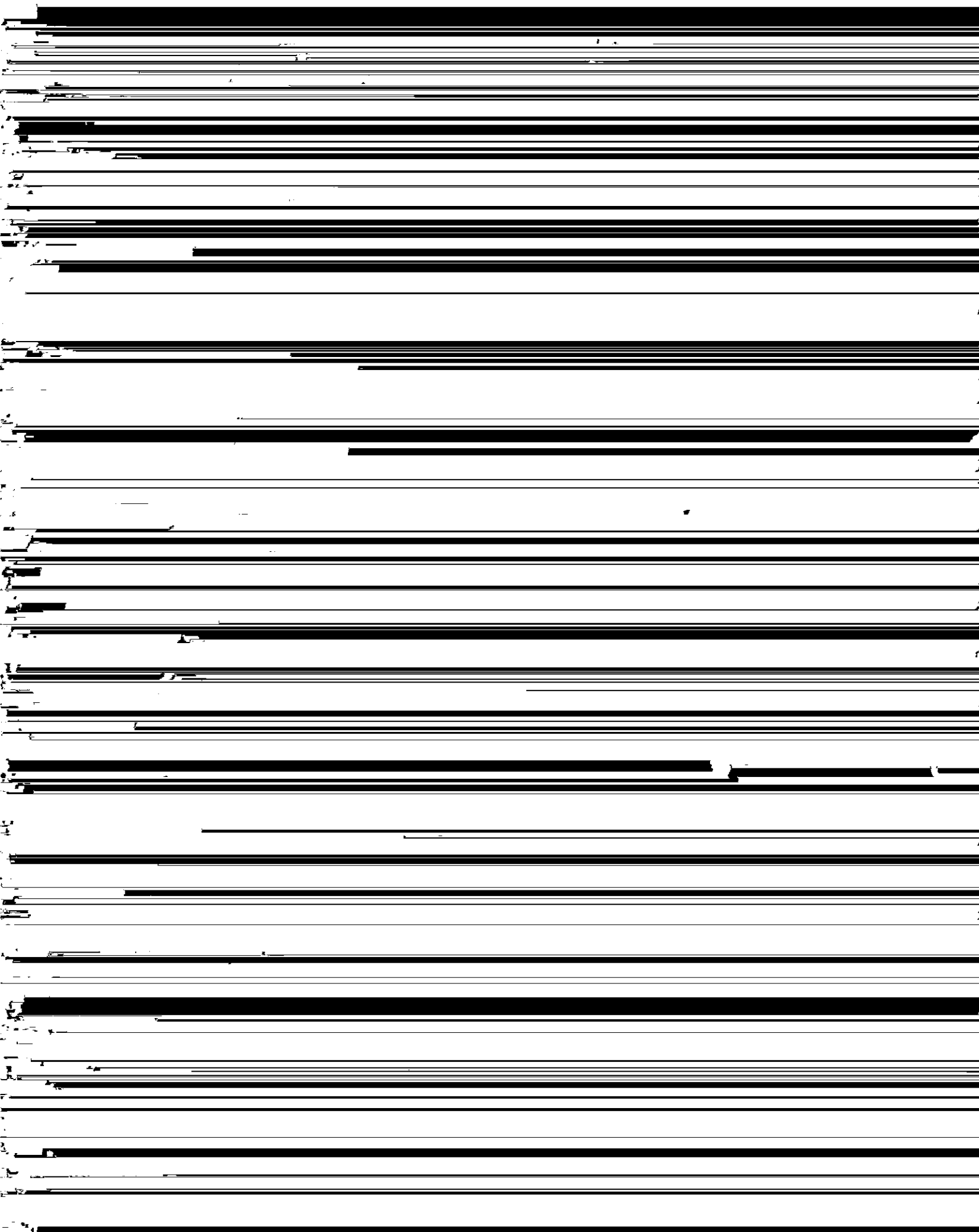
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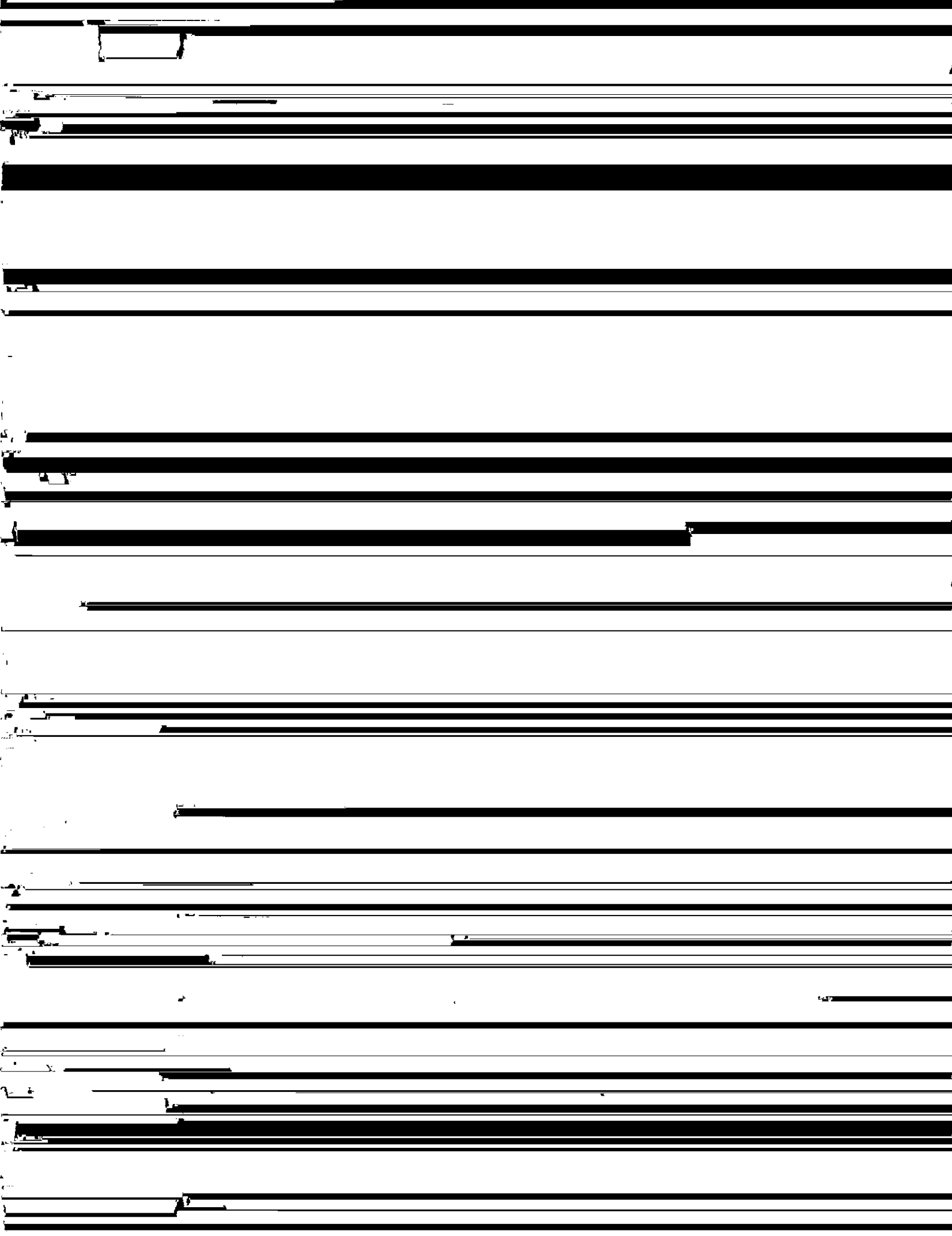
要旨

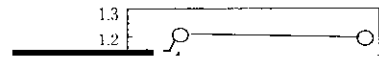
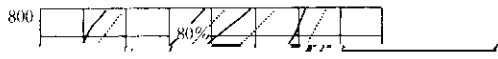
3相6極400Wインバータモータの効率、銅損および鉄損におよぼす無方向性電磁鋼板の磁気特性、板厚および歪取焼鈍の影響を調査した。PWM(pulse width modulation)インバータ周波数は30か

図 4 電磁鋼板の無方向性



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参考文献

- 1) 中田高義, 石原好之, 中野正剛: 電気学会誌, **90**(1970), 115
- 2) A. J. Moses and H. Shirkoohi: *Physica Scripta*, **39**(1989), 523
- 3) 中田高義, 石原好之, 中野正剛: 電気学会誌, **90**(1970), 115
- 4) 田中 隆, 屋鋪裕義, 高田俊次, 佐々木堂: 電気学会マグネティクス研 276
- 5) 矢野 隆, 榎園正人, 桑原克己, 佐藤茂信, 岡田 将: 電気学会マグネティクス研究会, MAG-83-57
- 6) 清水 浩: 電気学会論文誌D, **111**(1991)7 513-522