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Jin et al.

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^a(54) **SERIAL CONCATENATION OF INTERLEAVED CONVOLUTIONAL CODES FORMING TURBO-LIKE CODES**

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Related U.S. Application Data

(63) Continuation of application No. 11/542,950, filed on Oct. 3, 2006, now Pat. No. 7,421,032, which is a continuation of application No. 09/861,102, filed on May 18, 2001, now Pat. No. 7,116,710, which is a continuation-in-part of application No. 09/922,852, filed on Aug. 18, 2000, now Pat. No. 7,089,477.

(60) Provisional application No. 60/205,095, filed on May 18, 2000.

(51) **Int. Cl.**
H04B 1/66 (2006.01)

(52) **U.S. Cl.** **375/240**; 375/285; 375/296; 714/801; 714/804

(58) **Field of Classification Search** 375/240, 375/240.24, 254, 285, 295, 296, 260; 714/755, 714/758, 800, 801, 804, 805

See application file for complete search history.

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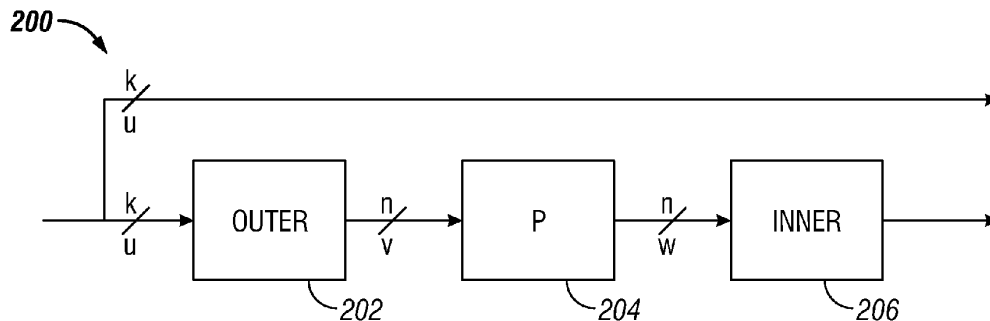
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(57) **ABSTRACT**

A serial concatenated coder includes an outer coder and an inner coder. The outer coder irregularly repeats bits in a data block according to a degree profile and scrambles the repeated bits. The scrambled and repeated bits are input to an inner coder, which has a rate substantially close to one.

22 Claims, 5 Drawing Sheets



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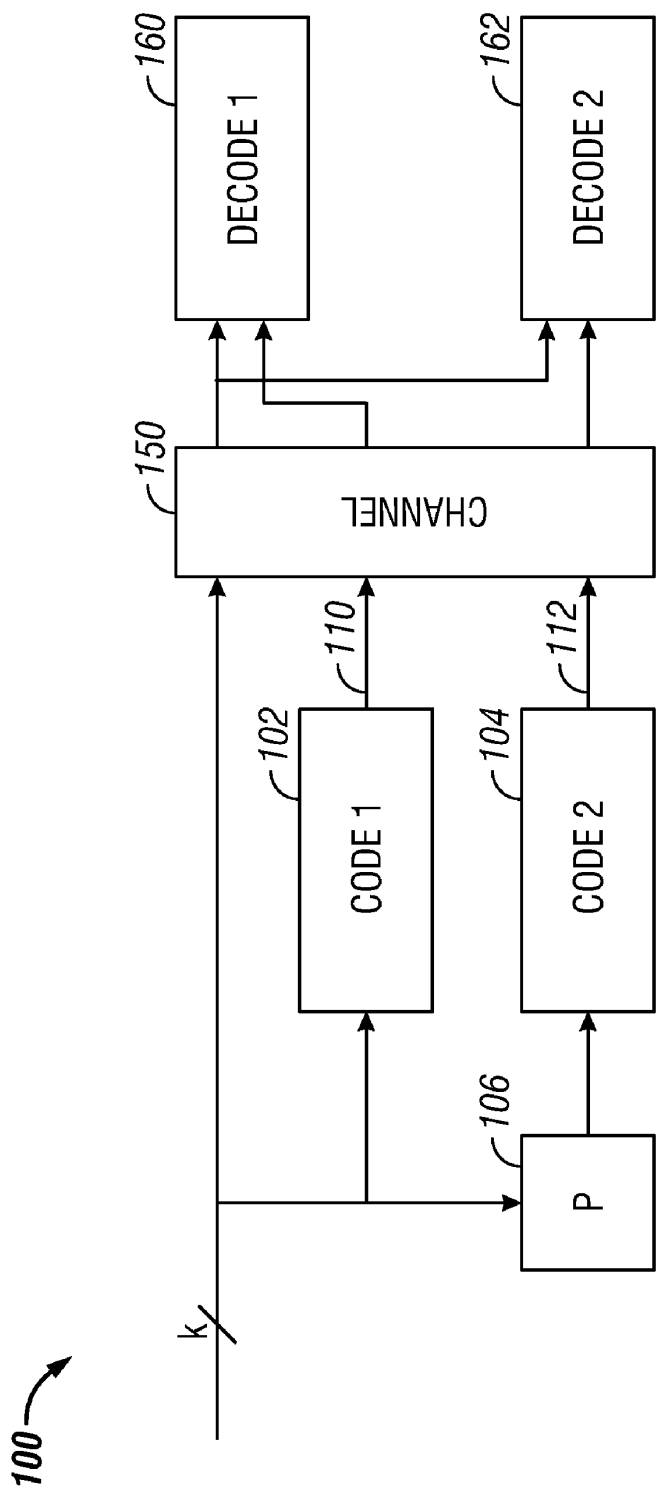


FIG. 1
(Prior Art)

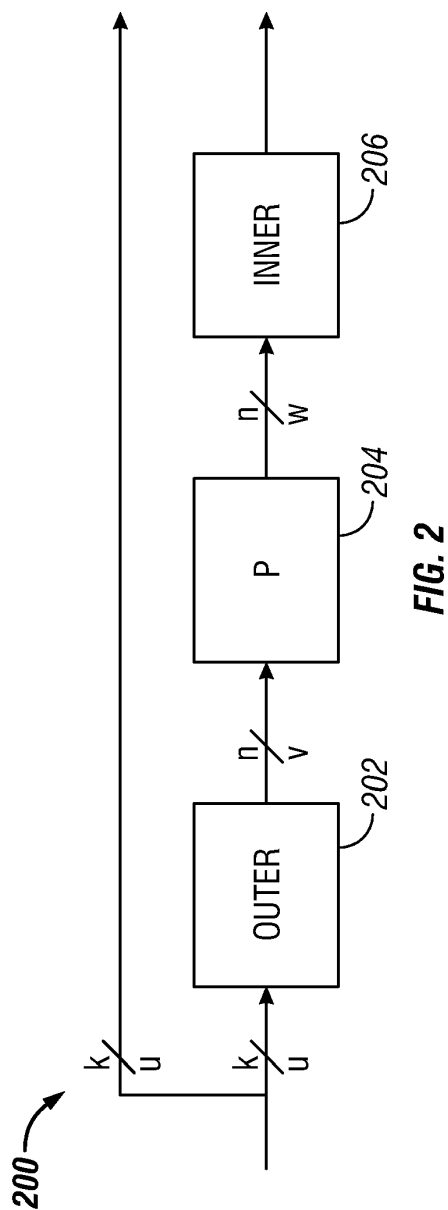


FIG. 2

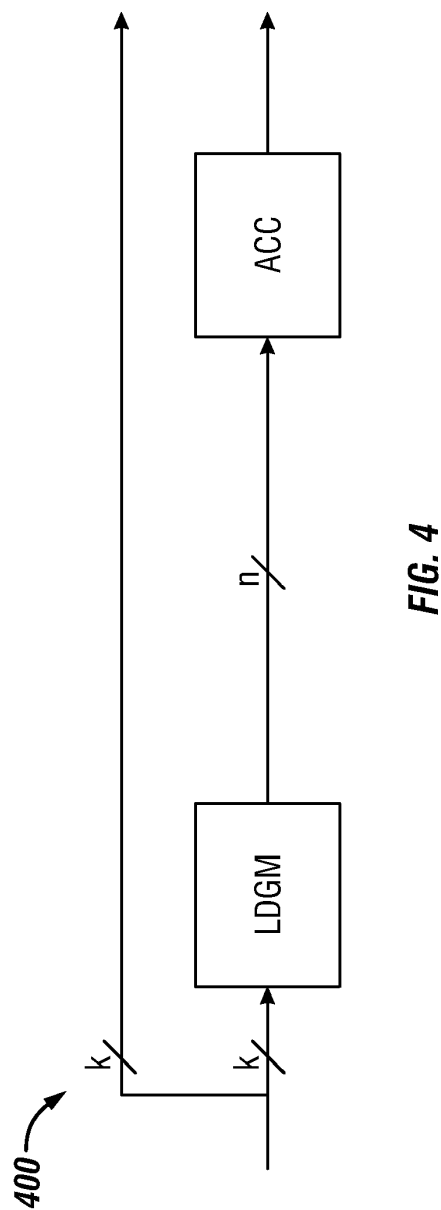


FIG. 4

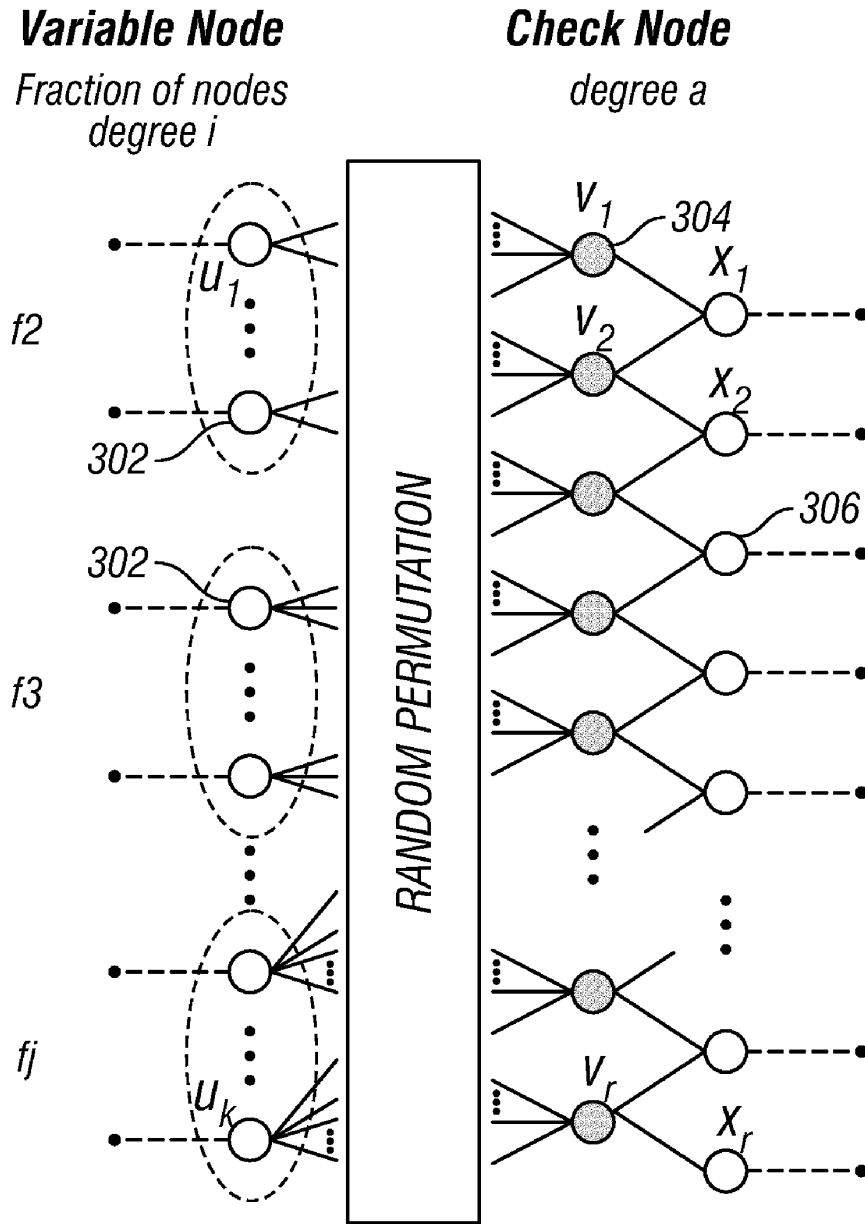


FIG. 3

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