



US007421032B2

(12) **United States Patent**
Jin et al.

(10) **Patent No.:** **US 7,421,032 B2**
(45) **Date of Patent:** **Sep. 2, 2008**

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

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **11/542,950**

(22) Filed: **Oct. 3, 2006**

(65) **Prior Publication Data**

US 2007/0025450 A1 Feb. 1, 2007

Related U.S. Application Data

(63) Continuation of application No. 09/861,102, filed on May 18, 2001, now Pat. No. 7,116,710, and 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.**
H04L 5/12 (2006.01)

(52) **U.S. Cl.** **375/262; 375/265; 375/348; 714/755; 714/786; 714/792; 341/52; 341/102**

(58) **Field of Classification Search** **375/259, 375/262, 265, 285, 296, 341, 346, 348; 714/746, 714/752, 755, 756, 786, 792, 794-796; 341/51, 341/52, 56, 102, 103**

See application file for complete search history.

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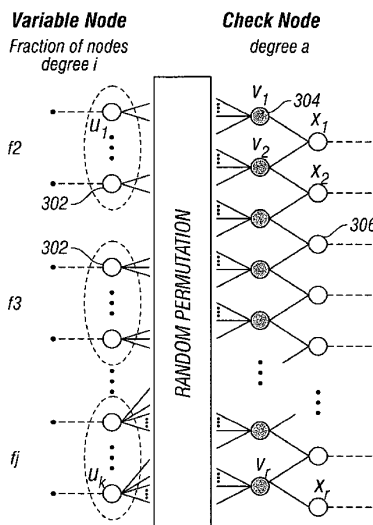
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(57) **ABSTRACT**

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.

23 Claims, 5 Drawing Sheets



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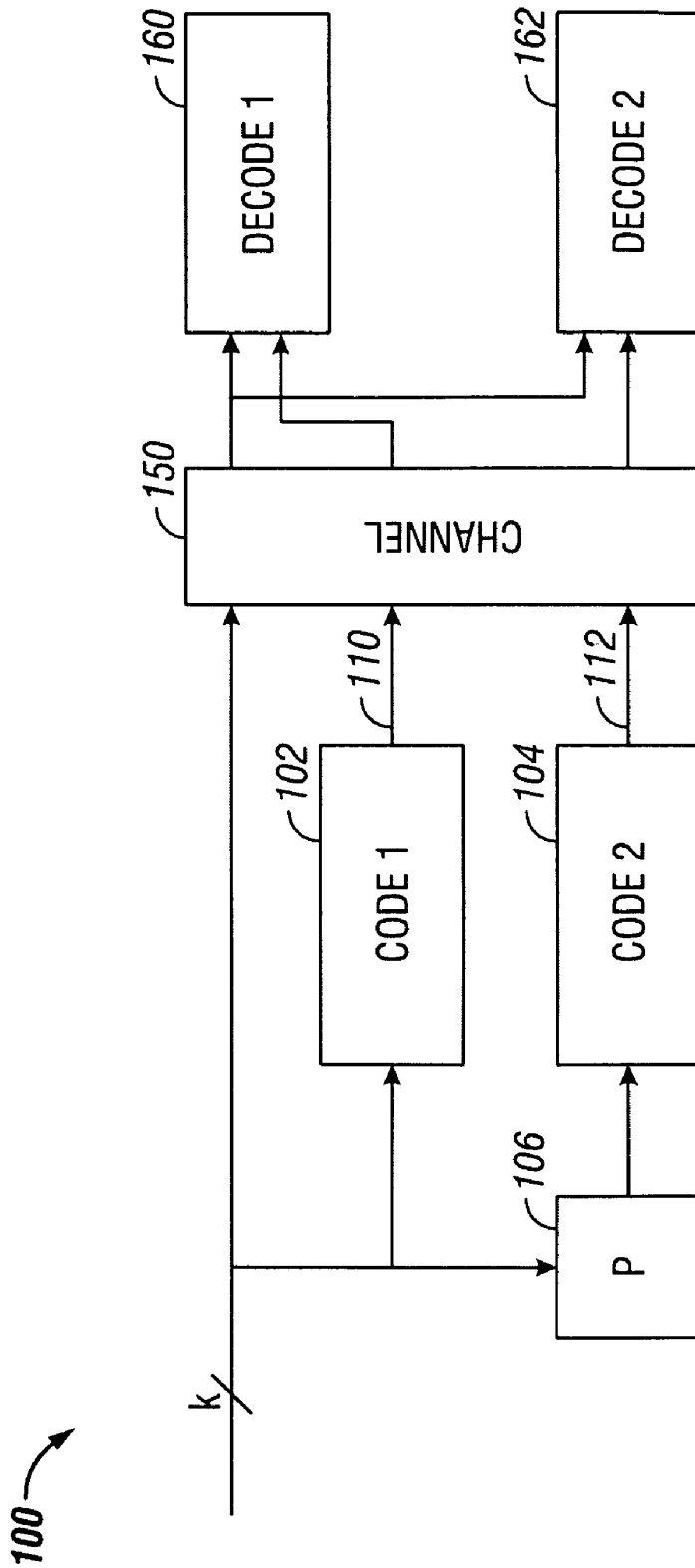
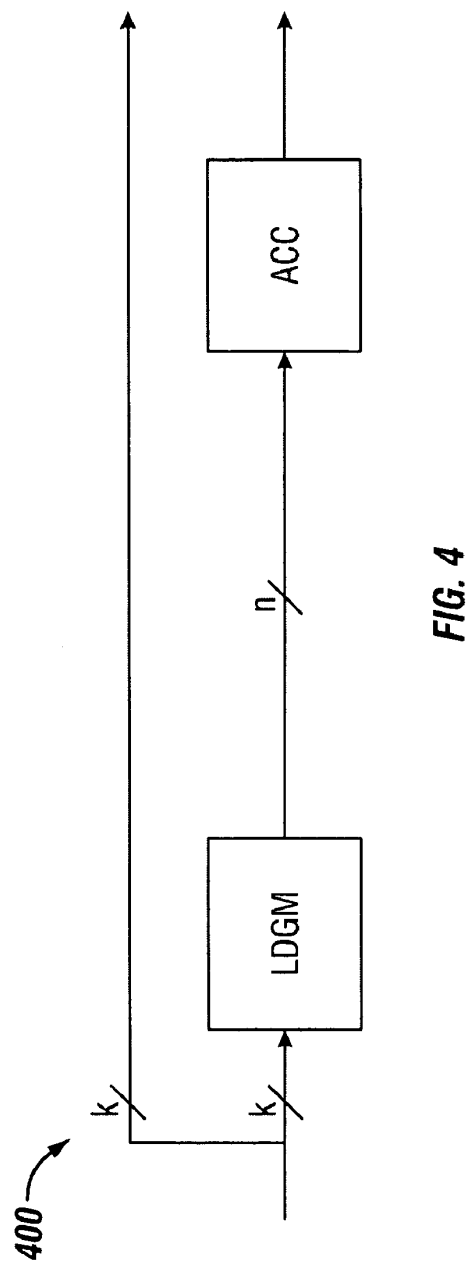
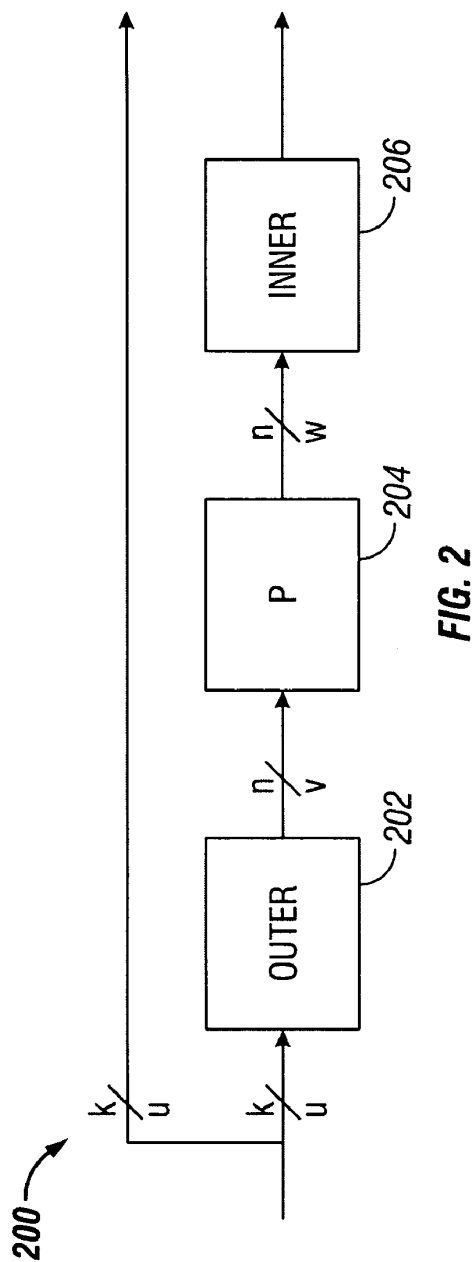


FIG. 1
(Prior Art)



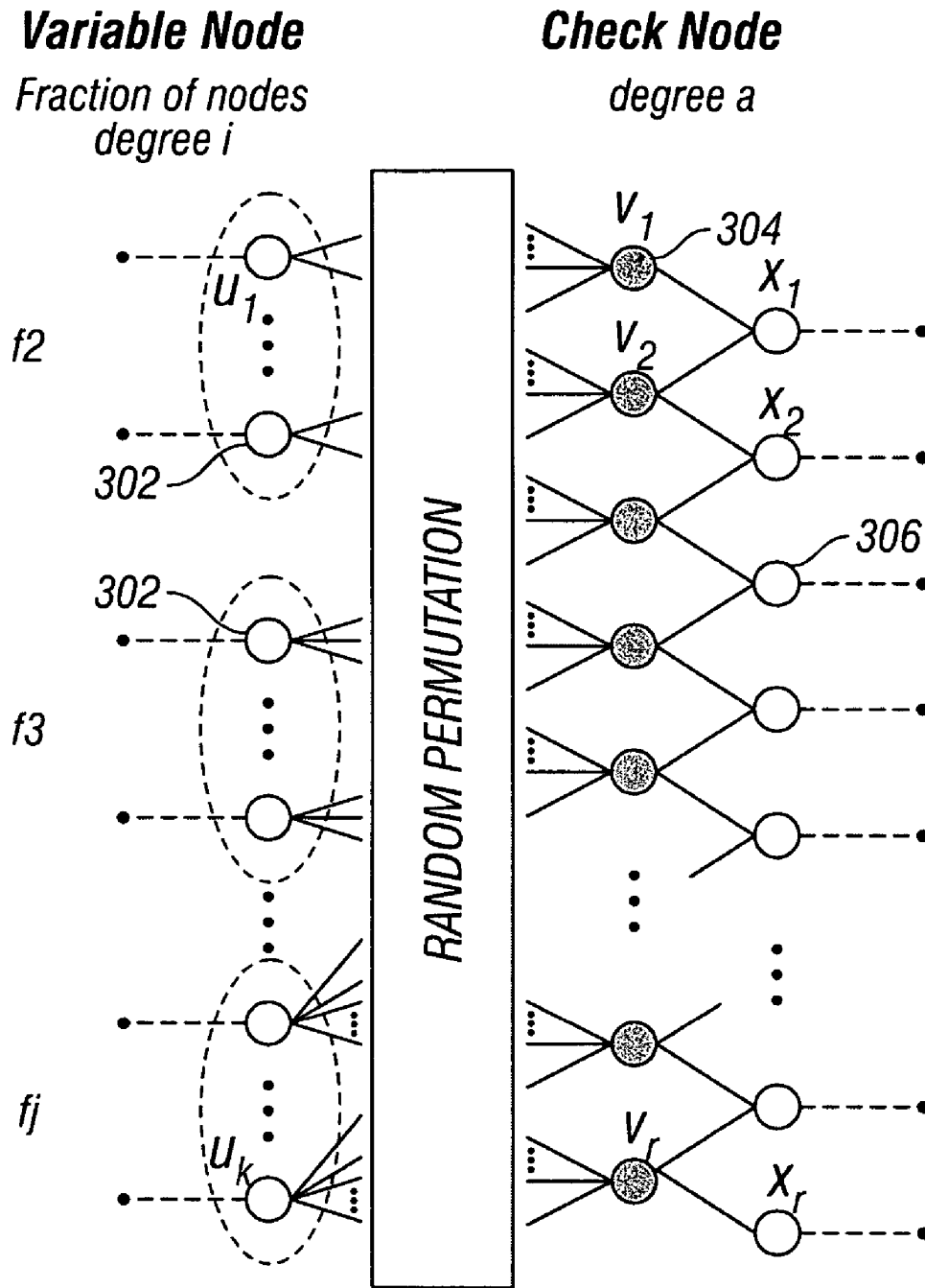


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