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(71) Applicant: **LENOVO (SINGAPORE) PTE. LTD.** [SG/SG]; 151, Lorong Chuan #02-01, New Tech Park, Singapore 556741 (SG).

(72) Inventors: **BEN HADJ FREDJ, Abir**; Schwarzburgstrasse, 66, 60318 Frankfurt am main (DE). **STOICA, Razvan-Andrei**; Moellerstr. 28, 58456 Witten (DE).

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(54) **Title:** TECHNIQUES FOR PARALLEL POLAR CODE DECODING USING A PERMUTATION MATRIX

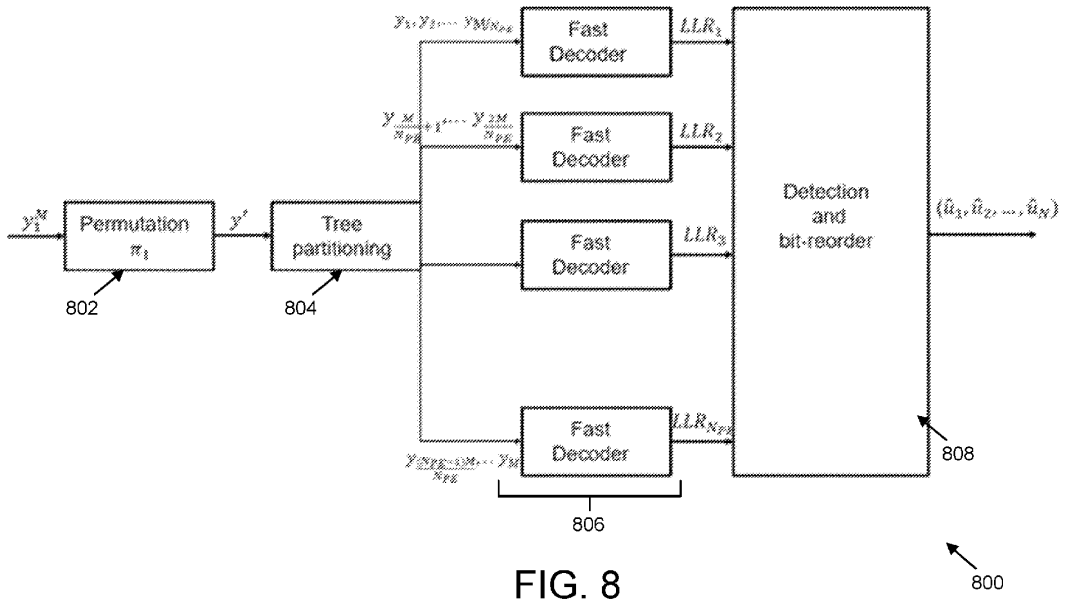


FIG. 8

(57) **Abstract:** Various aspects of the present disclosure relate to receiving (1502) a polar codeword comprising a set of bits and generating (1504) a permuted vector based at least in part on the polar codeword and a permutation matrix. Aspects of the disclosure may relate to determining (1506) a plurality of polar subcodes based on the permuted vector, and identifying (1508), for each polar subcode of the plurality of polar subcodes, a set of kernels, where each kernel of the set of kernels is associated with a bit pattern of a set of one or more bit patterns. Aspects of the disclosure may relate to decoding (1510) the plurality of polar subcodes using a plurality of parallel polar code component decoders, where each parallel polar code component decoder includes one or more fast decode modules to decode a corresponding kernel of the set of kernels.

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