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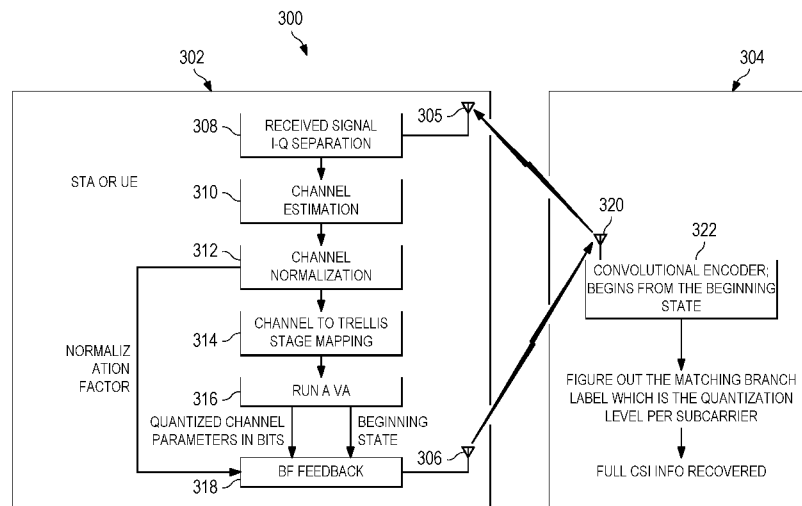


FIG. 3

(57) Abstract: System and method embodiments are provided for Trellis Coded Quantization (TCQ) based channel feedback. The embodiments provide full channel state information with a short feedback size to a scheduler in order for the scheduler to apply advanced beamforming schemes, such as those designed in non-linear precoder methods. In an embodiment, a method in a station for providing channel feedback to a transmission point (TP) in a wireless system includes receiving a signal from the TP; estimating channel parameters for the signal; applying a TCQ scheme to the estimated channel parameters to map the channel estimate parameters to trellis codes; and transmitting full channel state information to the TP, wherein the full channel state information comprises output of a Viterbi algorithm (VA) corresponding to the trellis codes.

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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) H04W H04B H04L		
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) CNPAT,WPI,EPODOC,IEEE,GOOGLE, TRELIS CODED QUANTIZATION, FEEDBACK, CHANNEL, STATE, INFORMATION, ESTIMAT???, WIRELESS SYSTEM		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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Y	XU, Mingguang et al., "MIMO Precoding with Limited Rate Feedback:Simple Quantizers Work Well," <i>Global Telecommunications Conference, 2009. GLOBECOM, 2009.IEEE</i> , Vol. pages 1 to 6,, No. ISSN 1930-529X, 21009) (009)-21), section I and IV	1-11, 14-25, 28-34
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A	CN 102461000 A (NOKIA CORPORATION.) 16 May 2012 (2012-05-16) the whole document	1-34
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex.		
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“A”	document defining the general state of the art which is not considered to be of particular relevance	“T” later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
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“O”	document referring to an oral disclosure, use, exhibition or other means	“&” document member of the same patent family
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