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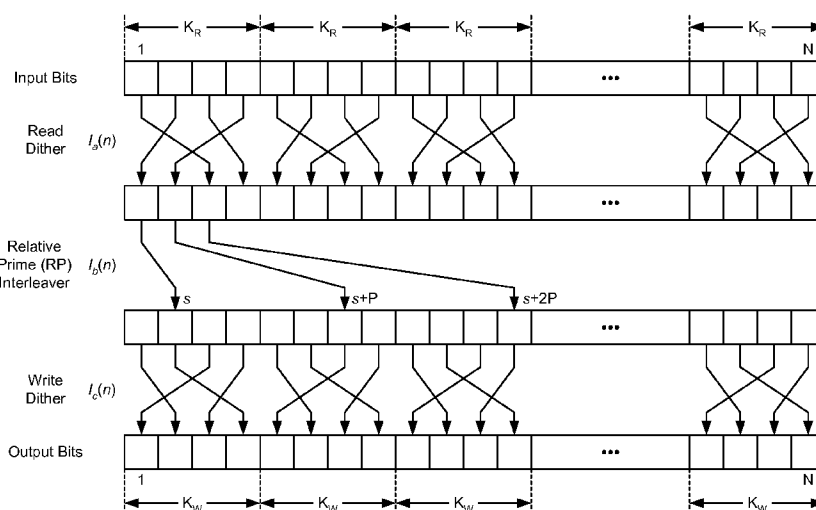
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- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

[Continued on next page]

(54) **Title:** TURBO INTERLEAVER FOR HIGH DATA RATES



(57) **Abstract:** Techniques for supporting high decoding throughput are described. A transmitter may encode a code block of data bits with a Turbo encoder. A receiver may perform decoding for the code block with a Turbo decoder having multiple soft-input soft-output (SISO) decoders. A contention-free Turbo interleaver may be used if the code block size is larger than a threshold size. A regular Turbo interleaver may be used if the code block size is equal to or smaller than the threshold size. The contention-free Turbo interleaver reorders the data bits in the code block such that information from the multiple SISO decoders, after interleaving or deinterleaving, can be written in parallel to multiple storage units in each write cycle without encountering memory access contention. The regular Turbo interleaver can reorder the data bits in the code block in any manner without regard to contention-free memory access.

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