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(54) Title: PHOTONIC PROCESSING SYSTEMS AND METHODS

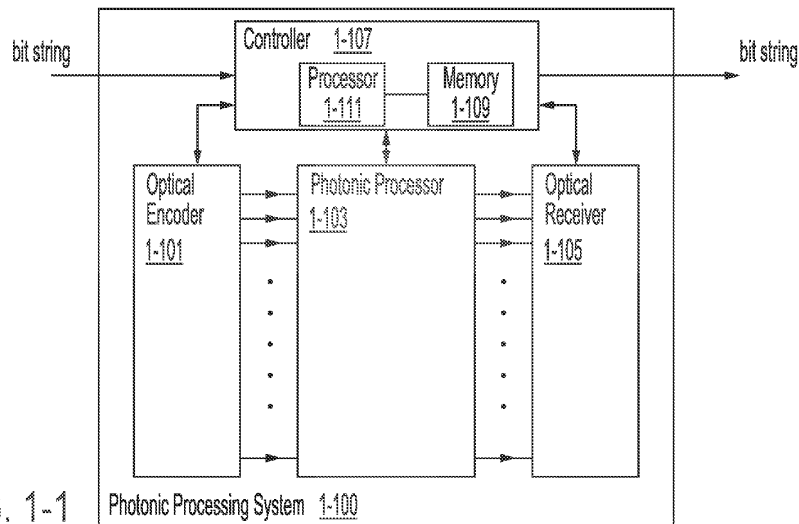


FIG. 1-1

(57) **Abstract:** Aspects relate to a photonic processing system, a photonic processor, and a method of performing matrix-vector multiplication. An optical encoder may encode an input vector into a first plurality of optical signals. A photonic processor may receive the first plurality of optical signals; perform a plurality of operations on the first plurality of optical signals, the plurality of operations implementing a matrix multiplication of the input vector by a matrix; and output a second plurality of optical signals representing an output vector. An optical receiver may detect the second plurality of optical signals and output an electrical digital representation of the output vector.

SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN,
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