Abstracts

Optically powered remote optical field sensor system using an electroabsorption-modulator

R. Heinzelmann, A. Stohr, M. Groz, D. Kalinowski, T. Alder, M. Schmidt and D. Idger. "Optically powered remote optical field sensor system using an electroabsorption-modulator." 1998 MTT-S International Microwave Symposium Digest 98.3 (1998 Vol. III [MWSYM]): 1225-1228.

A novel optical sensor system is presented, where the remote transceiver unit is based upon a high-speed electroabsorption (EA) waveguide modulator. The proposed sensor concept allows bi-directional operation, by using the EA-modulator not only as a modulator element to receive signals from the antenna but also as a detector element to transmit signals to the antenna. For optimum dynamic range and highest sensitivity the EA-modulator is biased. The voltage necessary for this is provided from an integrated fiber-coupled photovoltaic cell (PVC) array in order not to reduce the overall EMC of the sensor.

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