

## Wideband millimeter wave/optical network applications in Japan

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*N. Imai, H. Kawamura, K. Inagaki and Y. Karasawa. "Wideband millimeter wave/optical network applications in Japan." 1997 MTT-S International Microwave Symposium Digest 1. (1997 Vol. 1 [MWSYM]): 27-30.*

This paper describes work on wideband millimeter-wave/optical network applications in Japan, especially projects being pursued at ATR. Results of fundamental transmission experiments demonstrate the feasibility of digital signal transmission at 118 Mbps with a BER of less than  $10^{-6}$ . In addition, an advanced system considered suitable for future high-speed mobile communications is proposed. This system employs an intelligent multibeam antenna and the direction of each sharp beam can be controlled adaptively. An optical signal processing array antenna is found to be suitable for this system, and several key technologies for system construction are described.

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