Abstracts

Image observation of pico second electrical pulse by scanning force optoelectronic microscope

K. Takeuchi and A. Mizuhara. "Image observation of pico second electrical pulse by scanning force optoelectronic microscope." 1997 MTT-S International Microwave Symposium Digest 3. (1997 Vol. III [MWSYM]): 1643-1646.

We succeeded for the first time in visualizing instantaneous voltage distribution of 2ps electrical pulse propagating on coplanar strips (CPS). This result was obtained using a scanning force optoelectronic microscope (SFOEM) which we have developed by coupling a scanning force microscope (SFM) and an ultrafast optical sampling technique. The observed voltage distribution shows a single peak deviating outward. The result seems not consistent with a simple theoretical prediction. There is a possibility that simple theoretical treatments usually used are no more useful for calculating ultrafast pulse distribution.

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