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**Non-linear dielectric response of glass formers under oscillating temperature** TAKASHI ODAGAKI, MASATOSHI KURODA, HIDEAKI KATO, Tokyo Denki University, YASUO SARUYAMA, Kyoto Institute of Technology — Exploiting a simple model we investigate linear and non-linear dielectric responses of glass formers under oscillating temperature. We demonstrate that three characteristic temperatures, Vogel-Fulcher, glass transition and cross-over temperatures, can be determined from the analysis of the dielectric response. We first show that the real part of the linear susceptibility at the static limit becomes a cusp below the cross-over temperature and its curvature changes at the glass transition temperature. We also analyze the non-linear susceptibility under oscillating temperature which contains information of the response of the system, in particular of the free energy landscape, against the temperature modulation. We find that the real part of the non-linear susceptibility shows anomalies at the characteristic temperatures similar to the linear susceptibility.

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