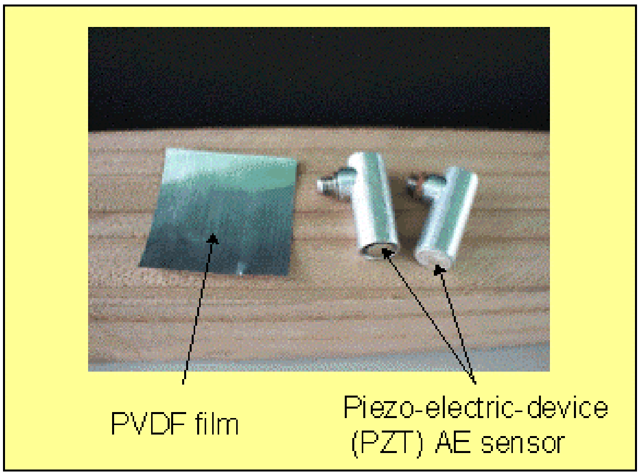
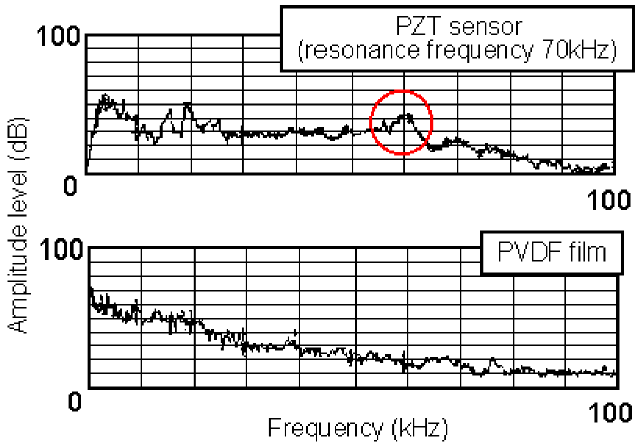
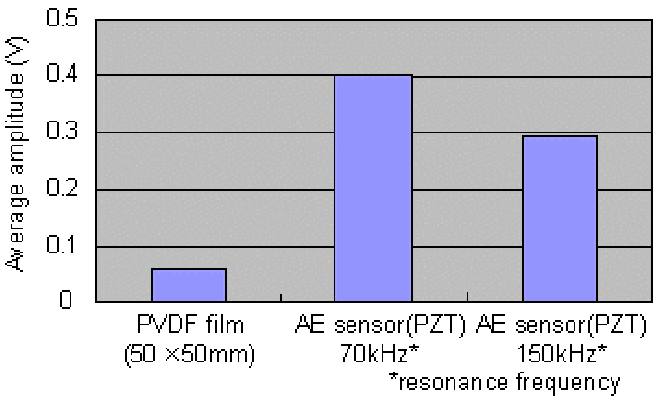
Detection of AE Generated by The Feeding Activity of Termites Using Piezo-electric Polymer Film PVDF

Polyvinylidene fluoride(PVDF) is the most sensitive piezo-electric polymer. The sensitivity of a 1-ply PVDF sensor was lower than that of a PZT sensor. The frequency spectra of AEs detected by PVDF film had some peaks under 10kHz, which depended on the characteristic frequencies of the longitudinal vibration of the specimen.

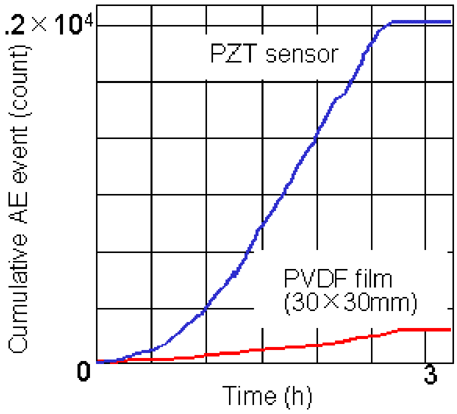




Frequency spectrum of artificial AE



Average amplitude of AE signals detected by three types of sensor



Cumulative AE event generated by termite biting