Breaking a Beaker with Sound

A sine generator is used in conjunction with an audio amplifier and a horn loudspeaker to generate a powerful, single frequency tone. The sound waves will cause a common Pyrex beaker to vibrate. If the frequency of the generated tone matches the dominant resonant frequency of the beaker and the sound waves are strong enough, the beaker will break.

An oscilloscope is used with a sound level meter to simultaneously monitor the amplitude and frequency of the sound coming out of the speaker and the sound being generated by the vibrating beaker.