The Sonic Fire Extinguisher

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We all know fire can be fought with water, chemicals, and even fire, but could we have ever imagined that sound could fight fire? In my experiment, I set out to create a sonic fire extinguisher that could safely extinguish flames by dousing them in frequencies, rather than combating them with water or chemicals. Using a subwoofer connected to an amplifier to give it sound and a form tube to focus the sound, I put this idea to the test while focusing on finding which frequency would be most effective. Originally, I had hypothesized that the higher frequency would be most effective for its short wavelengths. I tested 40, 50, 80, 90, 100, 160, 200, 800, 2000, and 10000Hz and found that, not only does sound have the ability to extinguish fires, but that the fire extinguishing capabilities vary inversely with the frequency- the higher the frequency, the lower the fire extinguishing effectiveness. In fact, after 80Hz, no frequency was even slightly effective, proving my original hypothesis as incorrect. Fire absolutely can be combatted with sound, and the lower the frequency, the better.

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