

Types considered harmful

There are some who argue that powerful type systems help to express complex interfaces parsimoniously, to aid verification by human and computer, and to automate deep optimizations. But how far is too far? How much of the sentimental touch of from-scratch C is one willing to forgo for “correctness”?

A Short Note on Timbre

Interestingly, the fourier uncertainty bound does not limit human hearing: the bound constrains the a spectral line’s width, which is not the same as our error in estimating that line’s center. In fact, a meticulous poll of roommates ($N = 2$) establishes that humans may hear gaussian-enveloped pitches at a resolution of at least $(\pm 10\text{ms}) \times \pm 2\text{Hz} = 0.02$, an order of magnitude finer than the natural symplectic scale $1/2\pi \approx 0.16$.

We present two techniques suited to spectral analysis of music.