

In the case of a musical note, the shorter the note lasts in time, the less certain we can be about its ~~exact~~ frequency, and in the flip side, a more definite frequency, requires a longer duration signal. i.e.

Short signal correlates with wide range of frequencies and only wide signals correlate with a short range of frequencies.

Therefore the time (t) required to determine the frequency (f) of the musical note can be taken as conjugate variables.