

# Physics 524 Week 8 Homework Exercises

Due: Tuesday 10/17/2023 at 10am

## Due date reminder, etc.

Please email your completed assignment to the course TA by Tuesday, 10 am of next week. Assignments that are late by at most one week will receive at most 50% of full credit. We will not grade anything submitted more than one week late.

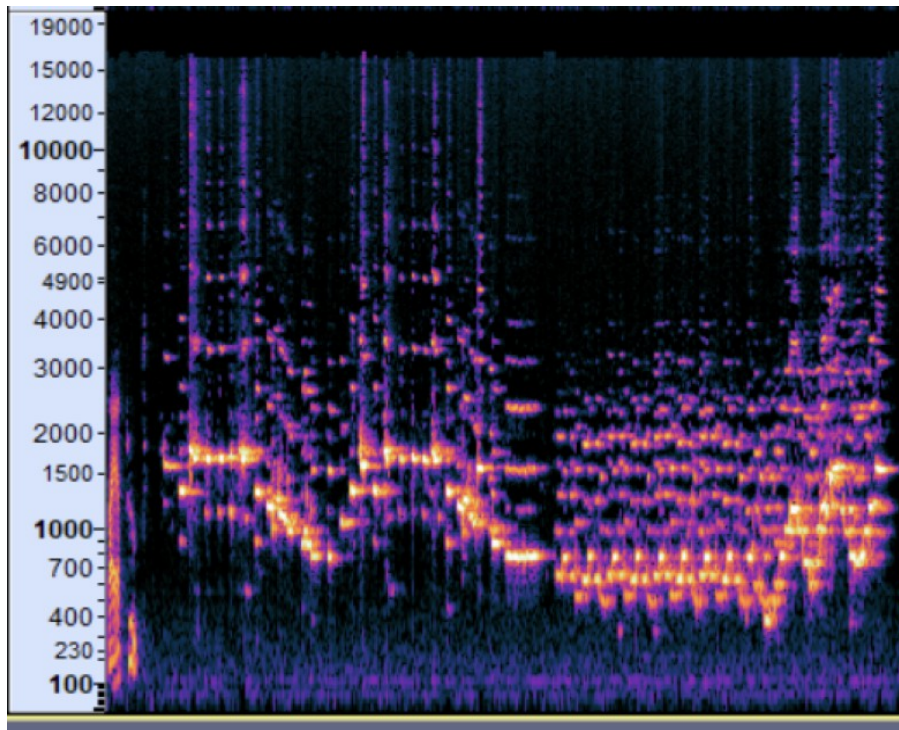
Your homework submissions—code, cell phone photos, etc. must include enough identifying information for us to tell who you are!

## Data interpretation

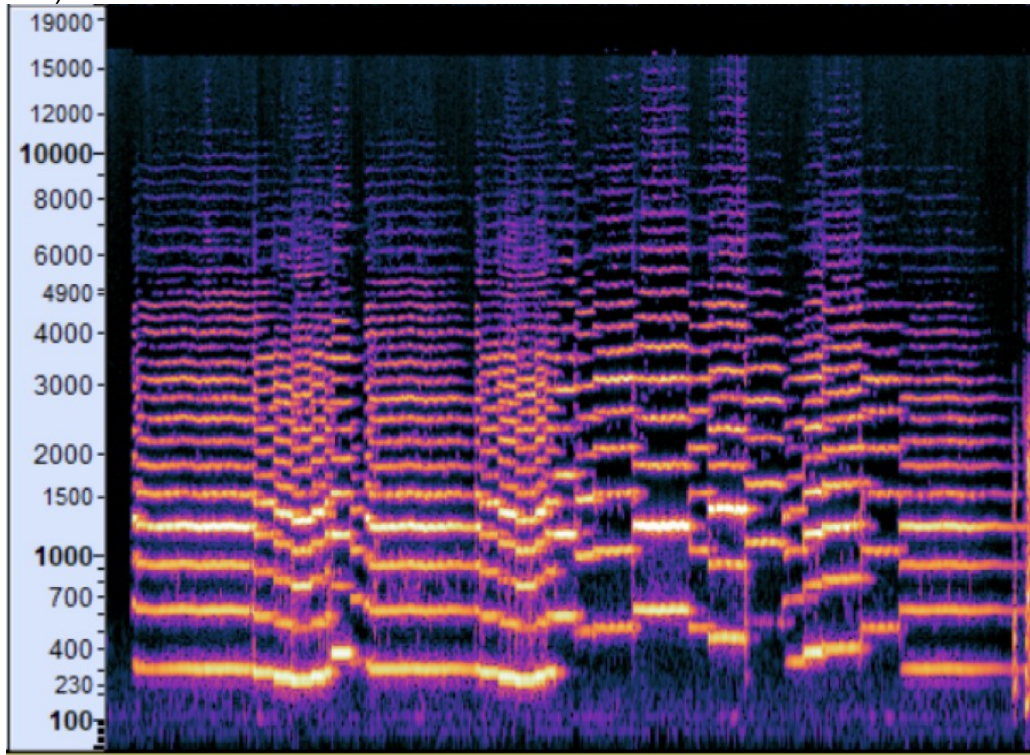
In the classic children's fairytale and musical composition, *Peter and the Wolf* by Sergei Prokofiev, a story is told through the combination of narration and music. Each character in the piece is represented by both a musical instrument/set of instruments, and a theme that is repeated throughout. Here, we will attempt to use the spectrogram in order to identify which characters are present in a given portion of the music.

The characters are as follows:

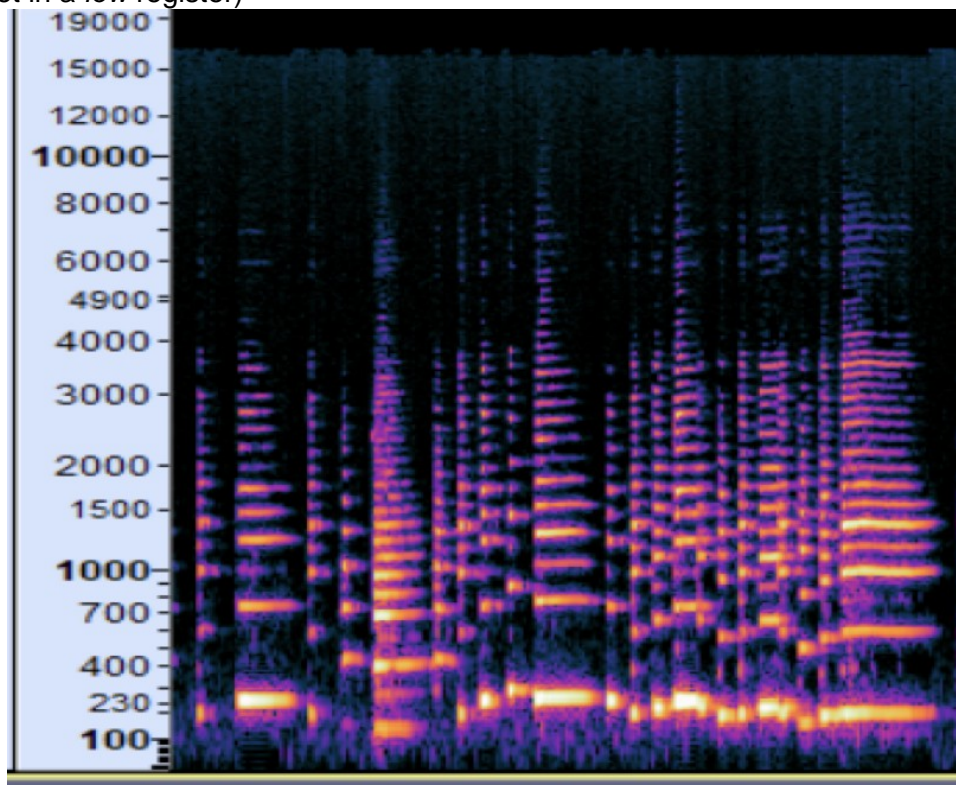
Bird (Flute)



Duck (Oboe)

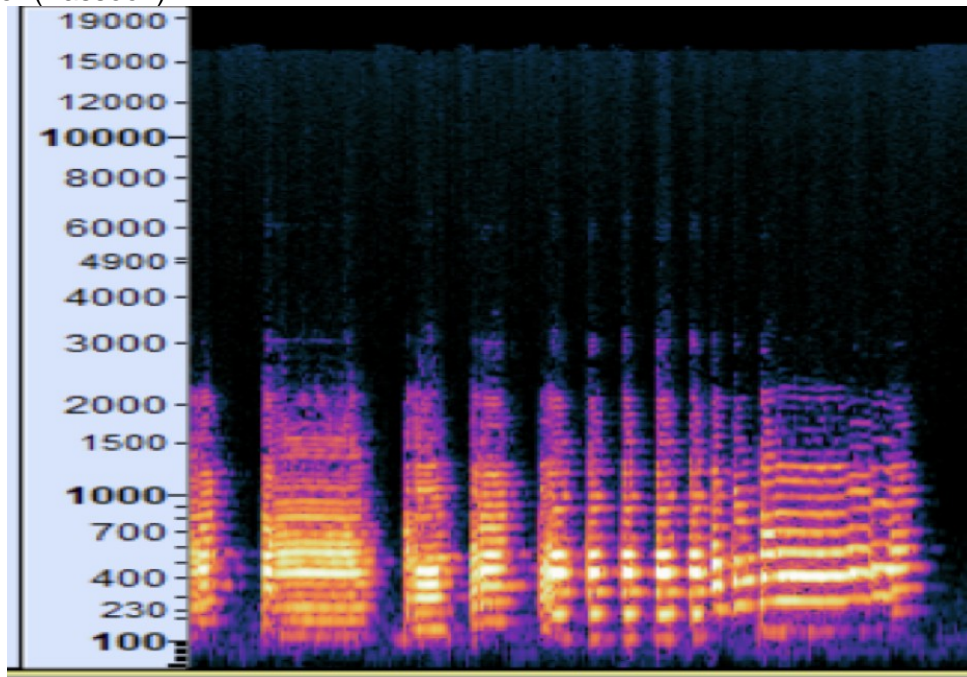


Cat (clarinet in a *low* register)

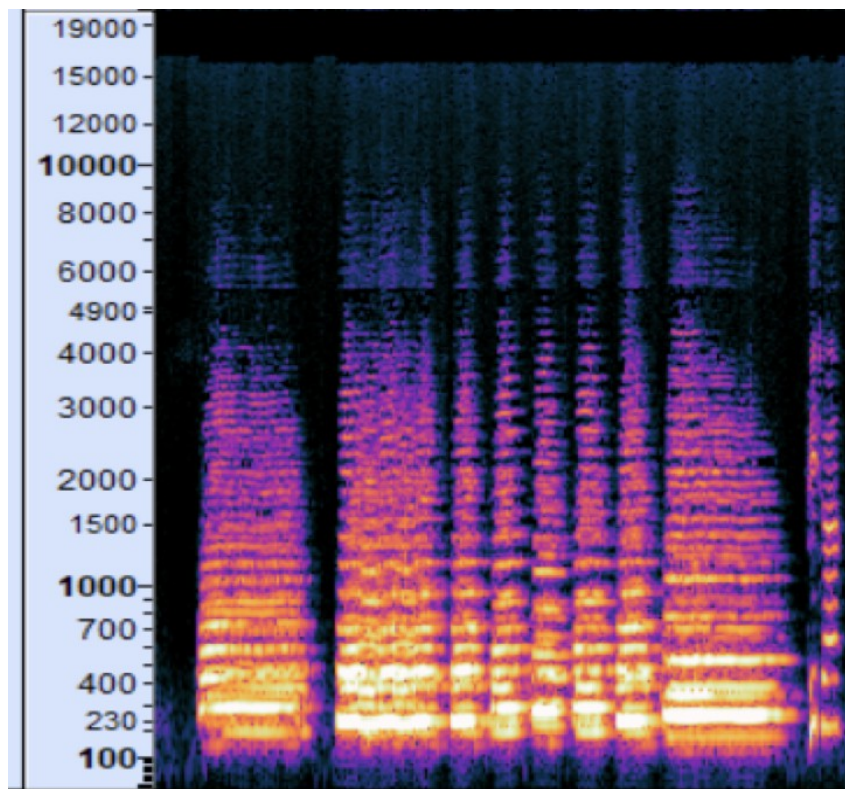




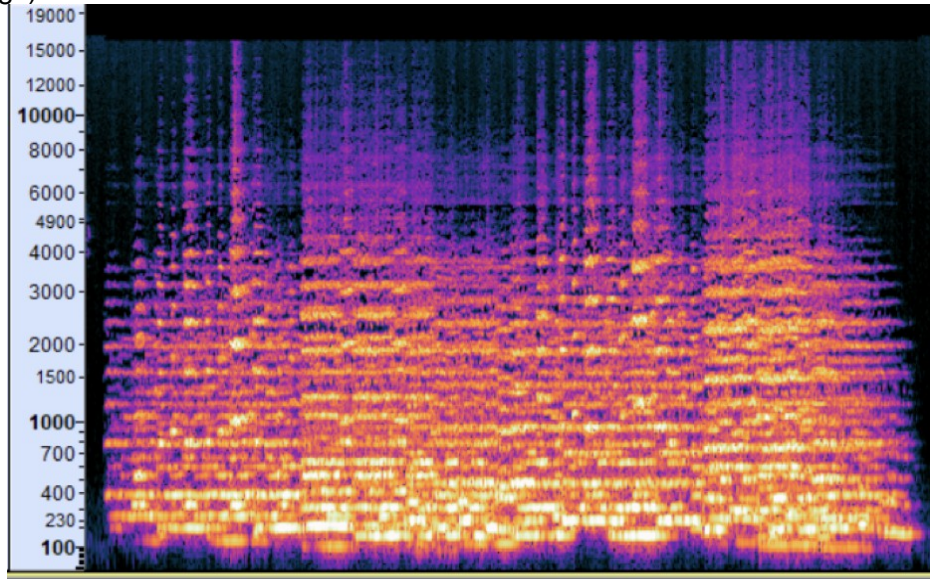
Grandfather (Bassoon)



Wolf (Horns):



Peter (Strings)



In the following portion, which characters are present? Where does each character come in? Explain your answers, referring to the spectrograms above.

