

Undergraduate Lecture Notes in Physics

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The Physics of Music

Integrating the Technical and Artistic Aspects of Creating Music

This textbook is designed to help students and professionals understand the intimate connection between music and physics. The reader does not need prior background in music or physics, as the concepts necessary for understanding this connection are developed from scratch, using nothing more sophisticated than basic algebra which is reviewed for the reader. The focus is on connecting physics to the creation of music and its effect on humans. The reader will learn about the basic structure of music in relation to acoustics concepts, different musical instrument groups, how the room affects sound, and how sound travels from instruments to human ears to evoke an emotional reaction. Replete with exercises to hone students' understanding, this book is ideal for a course on the physics of music and will appeal to STEM students as well as students, professionals, and enthusiasts in any field related to music and sound engineering.

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1	Introduction	1
1.1	Overview of Book	1
1.1.1	General Introduction.....	1
1.1.2	Book Subjects and Structure	2
1.2	Role of Music in Society	3
1.3	Role of Physics in Society	4
1.3.1	STEM Definition and Societal Benefits	4
1.3.2	Connection Between Art and Science	5
1.4	Role of Physics in Acoustics.....	6
1.4.1	Waves in Modeling Physical Processes.....	7
1.4.2	Instrument Structure and Design.....	10
1.5	Discussion Topics	10
1.6	Problems	11
	References.....	12
2	Language, Structure and Function of Music	13
2.1	Language	13
2.1.1	Notes and Intervals	13
2.1.2	Frequencies and Wave Properties	17
2.1.3	Designation of Intervals	19
2.1.4	Scales and Chords	22
2.1.5	Blues and Other Scales	24
2.1.6	Structures Based on Circle of Fifths	26
2.2	Mathematics of Music	28
2.2.1	Powers and Logarithms	28
2.2.2	Logarithms	30
2.2.3	Cents Intervals and Equal Temperament Tuning	31
2.3	Basic Elements of Music.....	33
2.3.1	Other Key Elements of Music.....	33
2.3.2	Orchestration.....	35
2.3.3	Stages of Development in a Musical Piece-Revisited.....	35

2.4	Brief History of Musical Styles.....	37
2.5	Summary.....	42
2.6	Discussion Topics	44
2.7	Problems	44
	References.....	46
3	Physics Concepts.....	49
3.1	Physical Variables in Musical Acoustics	49
3.1.1	Units.....	49
3.1.2	Kinematics	50
3.1.3	Force and Pressure.....	53
3.1.4	Energy and Power	61
3.1.5	Periodic Motion.....	68
3.2	Wave Properties	71
3.2.1	Longitudinal and Transverse Waves	72
3.2.2	Superposition of Waves	77
3.2.3	Standing Waves	80
3.2.4	Helmholtz Resonators	85
3.2.5	Waves in Instruments.....	86
3.3	Advanced Concepts	88
3.3.1	Doppler Effect	88
3.3.2	Sound Effects and Modulating Waves	91
3.3.3	Diffraction	92
3.3.4	Sensory Perception and the Ear	93
3.4	Summary.....	102
3.5	Projects and Discussion	103
3.6	Lab Exercises	104
3.7	Problems	104
	Appendix	107
	References.....	108
4	Introduction to the Instrument Groups	109
4.1	Common Features of All Instruments	109
4.2	Characteristics of the Specific Instrument Groups.....	110
4.2.1	Brass.....	111
4.2.2	Strings	112
4.2.3	Woodwinds	113
4.2.4	Percussion.....	116
4.2.5	Electronic	117
4.2.6	Voice	118
4.3	Musical Considerations	120
4.4	Discussion Topics and Problems	120
	References.....	121
5	Brass Instrument Group	123
5.1	History of Brass Instruments	123

5.2	Summary of Key Properties	128
5.3	Description of Operation.....	129
5.3.1	Source of Sound	130
5.3.2	Body Structure and Function.....	132
5.3.3	Interface	135
5.4	Unique Characteristics of Brass Instruments	136
5.4.1	Trumpets	137
5.4.2	French Horn.....	141
5.4.3	Trombone	146
5.4.4	Tuba, Sousaphone and Other Brass Instruments	148
5.5	Summary.....	149
5.6	Discussion Topics and Problems	150
5.7	Demonstrations and Experiments	151
	Appendix	151
	References.....	152

6	Stringed Instrument Group	155
6.1	History of Stringed Instruments	155
6.1.1	Strummed Instruments	155
6.1.2	Bowed Instruments	159
6.1.3	Keyboard Instruments	160
6.2	Summary of Key Properties	161
6.3	Description of Operation.....	162
6.3.1	Source of the Sound	162
6.3.2	Use of Strings to Create Musical Effects	168
6.3.3	Body and Interface Structure and Function	170
6.4	Unique Characteristics of Stringed Instruments	172
6.4.1	The Violin Family	172
6.4.2	Plucked Instruments	180
6.4.3	Pianos	188
6.5	Discussion Topics and Problems	196
	References.....	197

7	Woodwind Instrument Group.....	199
7.1	History of Woodwind Instruments	199
7.2	Summary of Key Properties	205
7.3	Description of Operation.....	206
7.3.1	Source of Sound	207
7.3.2	Body Structure and Function.....	211
7.3.3	Interface	214
7.4	Unique Characteristics of Woodwind Instruments	215
7.4.1	Flutes and Recorders	215
7.4.2	Single Reed Instruments	217
7.4.3	Double Reed Instruments	221
7.4.4	Free Reed Instruments.....	224
7.4.5	Harmonica	224

7.4.6	Accordion	228
7.5	Discussion Topics and Problems	230
7.6	Demonstrations and Experiments	231
	References	231
8	Percussion Instrument Group	233
8.1	History of Percussion Instruments	233
8.1.1	Two Dimensional Sources	233
8.1.2	Three Dimensional Idiophones	235
8.2	Key Properties and Operation	240
8.2.1	Two Dimensional Percussion Sources	242
8.2.2	Three Dimensional Percussion Idiophones	245
8.3	Unique Characteristics of Percussion Instruments	250
8.3.1	Snare Drum	250
8.3.2	Other Stretched Membrane Drums	252
8.3.3	Timpani	252
8.3.4	Cymbals and Triangles	254
8.3.5	Gongs and Tamtams	255
8.3.6	Bar Instruments: Idiophones	255
8.3.7	Chimes	257
8.3.8	Bells	258
8.3.9	Steelpans	260
8.4	Discussion Topics and Problems	261
8.5	Demonstrations and Experiments	262
	References	262
9	Electronic Instrument Group	263
9.1	History of Electronic Instruments	263
9.2	Summary of Properties and Operation	267
9.2.1	Properties	267
9.2.2	Operation	273
9.3	Unique Characteristics of Electronic Instruments	275
9.3.1	Electric Guitars and Amplified Instruments	275
9.3.2	Sound Recording	280
9.3.3	Organs	283
9.3.4	Synthesizers and MIDI	288
9.4	Summary	291
9.5	Discussion Topics and Problems	291
9.6	Demonstrations and Experiments	292
	References	292
10	The Voice Group	293
10.1	Summary of Key Properties	293
10.2	Description of Operation	294
10.2.1	The Vocal Tract Source	294
10.2.2	Vocal Tract Function	296

10.2.3	Interface	298
10.3	Unique Characteristics of Singing Voices	307
10.4	Summary	312
10.5	Discussion Topics and Problems	312
	References	313
11	Room Acoustics	315
11.1	Introduction	315
11.2	Sound Propagation	316
11.3	Room Acoustics Standards	320
11.4	Physical Requirements for Appropriate Sound	323
11.4.1	Venue Design Parameters	324
11.4.2	Venue Design Examples	326
11.5	Summary of Room Acoustics	331
11.6	Discussion Topics and Problems	332
11.7	Demonstrations and Experiments	333
	References	333
12	Epilog: Connecting the Concepts	335
12.1	Summary of Musical Topics	335
12.2	Overview of Technical Concepts	336
12.3	Revisiting the Science and Art Connection	336
12.4	Individual Project and Group Work	337
12.5	Final Thoughts	338
	References	338
A	Frequencies of a Wide Range of Musical Notes	339
B	Fourier Transforms and Acoustic Spectra	341
C	Powers, Logarithms and Decibels	343
C.1	Introduction	343
C.2	Powers and Logarithms	343
C.2.1	Powers	343
C.2.2	Logarithms	345
C.3	Decibels	346
	References	347
D	Frequencies and Notes on a Piano	349
	Glossary	351
	Index	361