



# Hidden Dimensions

By Michael Hopkins

## — INSTRUMENTATION —

- 1 Conductor
- 8 1st Violin
- 8 2nd Violin
- 5 Viola
- 5 Cello
- 5 String Bass

Explore the hidden dimensions of spacetime and string theory with multiple meters! Great for a cross-curricular experience with the science class.

## PROGRAM NOTES

*Hidden Dimensions* was commissioned by Tricia Laux for the Dickerson Middle School 8th Grade Sinfonia in Cobb County, Marietta, Georgia. There is a string theory in physics named M-Theory that suggests spacetime contains eleven dimensions. Most of these dimensions are compacted, hidden, and undetectable by human experiments. This piece is a musical exploration of these hidden dimensions—a journey through spacetime! Through the use of multiple meters, the phrases are of lengths that represent all the different dimensions.

## NOTES TO THE CONDUCTOR

The opening should be played in a legato style. The *Allegro* should be played in a rhythmic and detached style. The  $\frac{7}{4}$  meter should always be conducted 3 + 2. The  $\frac{9}{8}$  section should be conducted 4 (2 + 2 + 2 + 3). In m. 134, the tremolo should terminate on beat 4 with a clean bow lift. In m. 140, the high strings should slowly gliss down whatever string they are on and release together on the final beat of the measure.

## NOTE FROM THE EDITOR

All Belwin string parts have been carefully bowed and fingered appropriately by level. The Yellow Very Beginning series includes many bowings as well as reminder fingerings for first-time readers. The Red Beginning series includes frequent bowings to assist younger players. Fingerings for altered pitches are often marked. The Green Intermediate series includes appropriately placed bowings for middle-level students. Fingerings and positions are marked for notes beyond first position. The Blue Concert series includes bowings appropriate for the experienced high school player. Fingerings and position markings are indicated for difficult passages.

  
Belwin/Pop String Editor

# Hidden Dimensions

CONDUCTOR SCORE

By Michael Hopkins

Duration - 5:45

Adagio (♩ = 50)

Violins

Violins I  
Violins II  
Viola  
Cello  
String Bass

*p*

1 2 3 4

Solo Vlns.

3 Violin Soloists  
Section

1 2 3  
-3

*p* *mf*  
*p* *mf*  
*p* *mf*

*pp* *pp* *pp* *pp*

*pp*

5 6 7 8

9 **Tutti**

Vlns. I *mf* *p*

Vlns. II *mf* *p*

Vla. *mf* *p*

Cello *mf* *p* *mf*

Str. Bass *mf* *p* *mf*

9 10 11 12

Vlns. I *f* *mp*

Vlns. II *f* *mp*

Vla. *f* *mp*

Cello *f* *div.*

Str. Bass *f*

13 14 15 16

19

Vlns. I

Vlns. II

Vla.

Cello

Str. Bass

*p* *pp* *p* *pp* *p*

17 18 19 20 21

Vlns. I

Vlns. II

Vla.

Cello

Str. Bass

*sfz* *p* *sfz* *p* *sfz* *p* *f* *mf* *mp* *f* *mf* *mp*

22 23 24 25 26

27 Allegro (♩ = 132)

Vlns. I

Vlns. II

Vla.

Cello

Str. Bass

27 28 29 30

31

Vlns. I

Vlns. II

Vla.

Cello

Str. Bass

31 32 33 34

In 4

I Vlns.

II Vlns.

Vla.

Cello

Str. Bass

*mp* *f*

35 36 37

I Vlns.

II Vlns.

Vla.

Cello

Str. Bass

*ff*

38 39 40

44

Vlns. I

Vlns. II

Vla.

Cello

Str. Bass

*p*

41 42 43 44

Vlns. I

Vlns. II

Vla.

Cello

Str. Bass

*mp*

*mp*

*mp*

*mf*

*mp*

*mp*

*mp*

45 46 47 48

I  
Vlns.

II

Vla.

Cello

Str. Bass

*f*

49 50 51

I  
Vlns.

II

Vla.

Cello

Str. Bass

*ff*

52 53 54



56

Vlns. I

Vlns. II

Vla.

Cello

Str. Bass

*f* *ff* *ff*

55 56 57 58

Vlns. I

Vlns. II

Vla.

Cello

Str. Bass

*mp* *mp* *mp* *mp*

59 60 61 62

I  
Vlns.  
II  
Vla.  
Cello  
Str. Bass

ff

63 64 65 66

This musical score block covers measures 63 to 66. It features five staves: Violins I and II, Viola, Cello, and String Bass. The key signature is one sharp (F#) and the time signature is 4/4. The music begins in measure 63 with a half note rest in the Violins and Viola, followed by a quarter note in the Cello and String Bass. In measure 64, all instruments enter with a forte (ff) dynamic. The Violins and Viola play eighth notes, while the Cello and String Bass play quarter notes. Measures 65 and 66 continue this rhythmic pattern with some melodic variation. A large red watermark 'Preview Only' is overlaid diagonally across the score.

I  
Vlns.  
II  
Vla.  
Cello  
Str. Bass

p

67 68 69 70

This musical score block covers measures 67 to 70. It features the same five staves as the previous block. The key signature remains one sharp (F#). The time signature changes from 4/4 to 5/4 in measure 68 and returns to 4/4 in measure 69. The dynamics are marked piano (p). In measure 67, the Violins and Viola play eighth notes, while the Cello and String Bass play quarter notes. In measure 68, the Violins and Viola play quarter notes, and the Cello and String Bass play quarter notes. In measure 69, the Violins and Viola play quarter notes, and the Cello and String Bass play quarter notes. In measure 70, the Violins and Viola play quarter notes, and the Cello and String Bass play quarter notes. A large red watermark 'Preview Only' is overlaid diagonally across the score.

73

Vlns. I

Vlns. II

Vla.

Cello

Str. Bass

*f*

*marcato*

71 72 73

Vlns. I

Vlns. II

Vla.

Cello

Str. Bass

74 75 76

I  
Vlns.  
II  
Vla.  
Cello  
Str. Bass

77 78 79

*mf*

I  
Vlns.  
II  
Vla.  
Cello  
Str. Bass

80 81 82 83

*ff* *dim.*

84

Vlns. I

Vlns. II

Vla.

Cello

Str. Bass

*p* *mp* *mf*

84 85 86 87

Vlns. I

Vlns. II

Vla.

Cello

Str. Bass

*mp* *f*

88 89 90

I  
Vlns.  
II  
Vla.  
Cello  
Str. Bass

91 92 93

*ff*

This block contains the musical score for measures 91, 92, and 93. It features five staves: Violins I and II, Viola, Cello, and String Bass. The key signature is one sharp (F#). Measure 91 is in 4/4 time, while measures 92 and 93 are in 2/4 time. The dynamic marking *ff* (fortissimo) is present in measures 92 and 93. A large red watermark is overlaid on the score.

I  
Vlns.  
II  
Vla.  
Cello  
Str. Bass

94 95 96 97

*mp*

This block contains the musical score for measures 94, 95, 96, and 97. It features five staves: Violins I and II, Viola, Cello, and String Bass. The key signature is one sharp (F#). Measure 94 is in 4/4 time, while measures 95, 96, and 97 are in 3/4 time. The dynamic marking *mp* (mezzo-piano) is present in measures 95, 96, and 97. A large red watermark is overlaid on the score.

Vlns. I

Vlns. II

Vla.

Cello

Str. Bass

98 99 100 101 102

Vlns. I

Vlns. II

Vla.

Cello

Str. Bass

103 104 105 106 107

I  
Vlns.  
II  
Vla.  
Cello  
Str. Bass

108 109 110 111 112

Detailed description: This block contains the musical score for measures 108 through 112. It features five staves: Violins I and II, Viola, Cello, and String Bass. The key signature is one sharp (F#) and the time signature is 4/4. Measure 108 starts with a fermata on a half note in the first violin. Measure 109 has a '-2' marking above the first violin staff. Measures 111 and 112 feature a 'V' marking above the Cello and String Bass staves. A large red watermark 'Preview Only' is overlaid diagonally across the score.

113  
I  
Vlns.  
II  
Vla.  
Cello  
Str. Bass

113 114 115 116

Detailed description: This block contains the musical score for measures 113 through 116. It features five staves: Violins I and II, Viola, Cello, and String Bass. The key signature is one sharp (F#). Measure 113 is marked with a box containing the number '113' and a 'ff' dynamic marking. Measures 114 and 115 have a 2/4 time signature, while measure 116 returns to 4/4. The score includes accents (>) and dynamic markings like 'ff'. A large red watermark 'Preview Only' is overlaid diagonally across the score.



3 Violin Soloists

Solo Vlns. 1, 2, 3

Vlns. I, II

Vla.

Cello

Str. Bass

*ff*

Section

first 2 stands only

*sf*

*pp*

117 118 119 120

The image shows a page of a musical score for measures 117 to 120. The score is arranged in a system with six staves. The top three staves are for 'Solo Vlns.' (Violin Soloists 1, 2, and 3), and the bottom three are for the 'Vlns. Section' (Violin I and II, Viola, Cello, and String Bass). The key signature is one sharp (F#) and the time signature is 4/4. The Solo Violin parts feature melodic lines with slurs and accents, marked with a forte (*ff*) dynamic. The Violin Section parts are mostly rests with some initial notes. The Viola part has a few notes with accents. The Cello part has a melodic line starting in measure 117, marked with *sf* (sforzando) and *pp* (pianissimo) dynamics. The String Bass part has a rhythmic pattern. A large red watermark 'Preview Only' is overlaid diagonally across the page. The page number '17' is in the top right corner. Measure numbers 117, 118, 119, and 120 are printed below the staves.

18

Solo Vlns.

1

2

3

Vlns.

I

II

Vla.

Cello

Str. Bass

*pp*

pizz.

-3

V

121

122

123

124

125 Tutti

Vlns. I *p* *cresc.*

Vlns. II *p* *cresc.*

Vla. *p* *cresc.*

Cello *Tutti* *p* *arco* *cresc.*

Str. Bass *p* *cresc.*

125 126 127 128 129

Vlns. I *ff* *pp*

Vlns. II *ff* *pp*

Vla. *ff* *pp*

Cello *ff* *pp*

Str. Bass *ff* *pp*

130 131 132 133 134

135

Vlns. I

Vlns. II

Vla.

Cello

Str. Bass

*f* *ff*

135 136 137

Vlns. I

Vlns. II

Vla.

Cello

Str. Bass

*gliss.*

138 139 140

142

Vlns. I

Vlns. II

Vla.

Cello

Str. Bass

141 142 143

Vlns. I

Vlns. II

Vla.

Cello

Str. Bass

144 145 146

I Vlns.

II Vlns.

Vla.

Cello

Str. Bass

147 148 149

I Vlns.

II Vlns.

Vla.

Cello

Str. Bass

150 151 152

*ff*

3

**Vlns. I**

**Vlns. II**

**Vla.**

**Cello**

**Str. Bass**

153 154 155

**Vlns. I**

**Vlns. II**

**Vla.**

**Cello**

**Str. Bass**

*sfz* *mf* *ff*

156 157 158