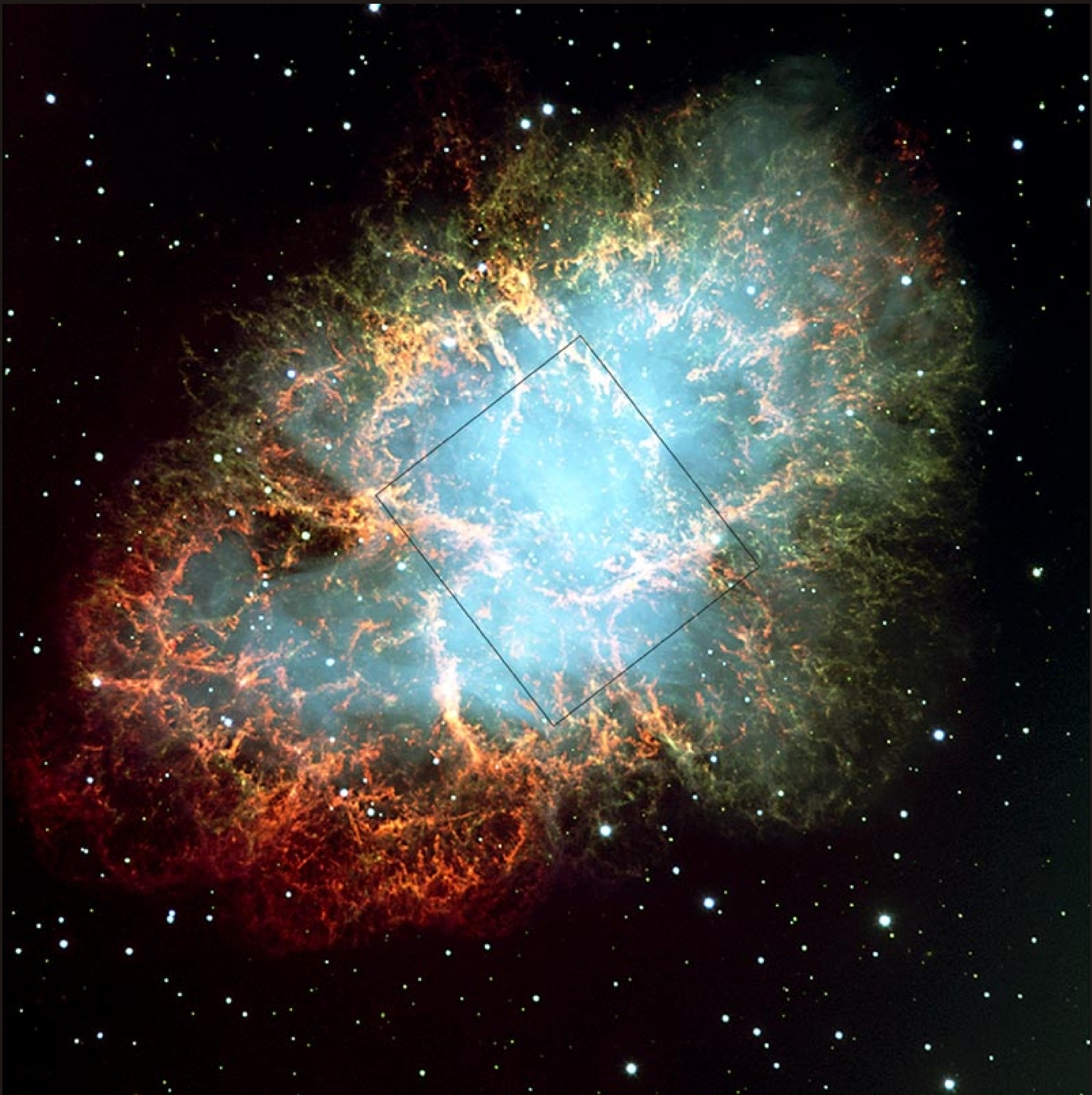


project.gim

jovan.pesec

the.crab.nebula

super.nova.4.daw.guitar.&.strings

jovan.pesec

the.crab.nebula

super.nova.4.daw.guitar.&.strings

nr.6://is.anybody.out.there

content

g.i.m

project.generative.interactive.music

is.anybody.out.there

Preface

"One of the guitar's needs at the present time is that for new repertory, neither couched in well established idioms nor those of the avant-garde, against which public taste rebels - adventurous and interesting but not unintelligible or pretentious! Jovan Pesec is well equipped to provide it".

John W. Duarte
via e-mail, 28th November 2000

Vorwort

„Ein wichtiges Erfordernis der Gitarre an der Wende zu einem neuen Jahrtausend ist ein neues Repertoire, das sich weder etablierten Stilrichtungen noch avantgardistischen Idiomen verpflichtet fühlt und dabei die heute übliche Rebellion gegen den Publikumsgeschmack vermeidet. Abenteuerlich und interessant, jedoch nicht unverständlich oder anmaßend! Jovan Pesec besitzt die Fähigkeit, dafür einen wesentlichen Beitrag zu leisten."

John W. Duarte
via e-mail, 28. November 2000

the.crab.nebula

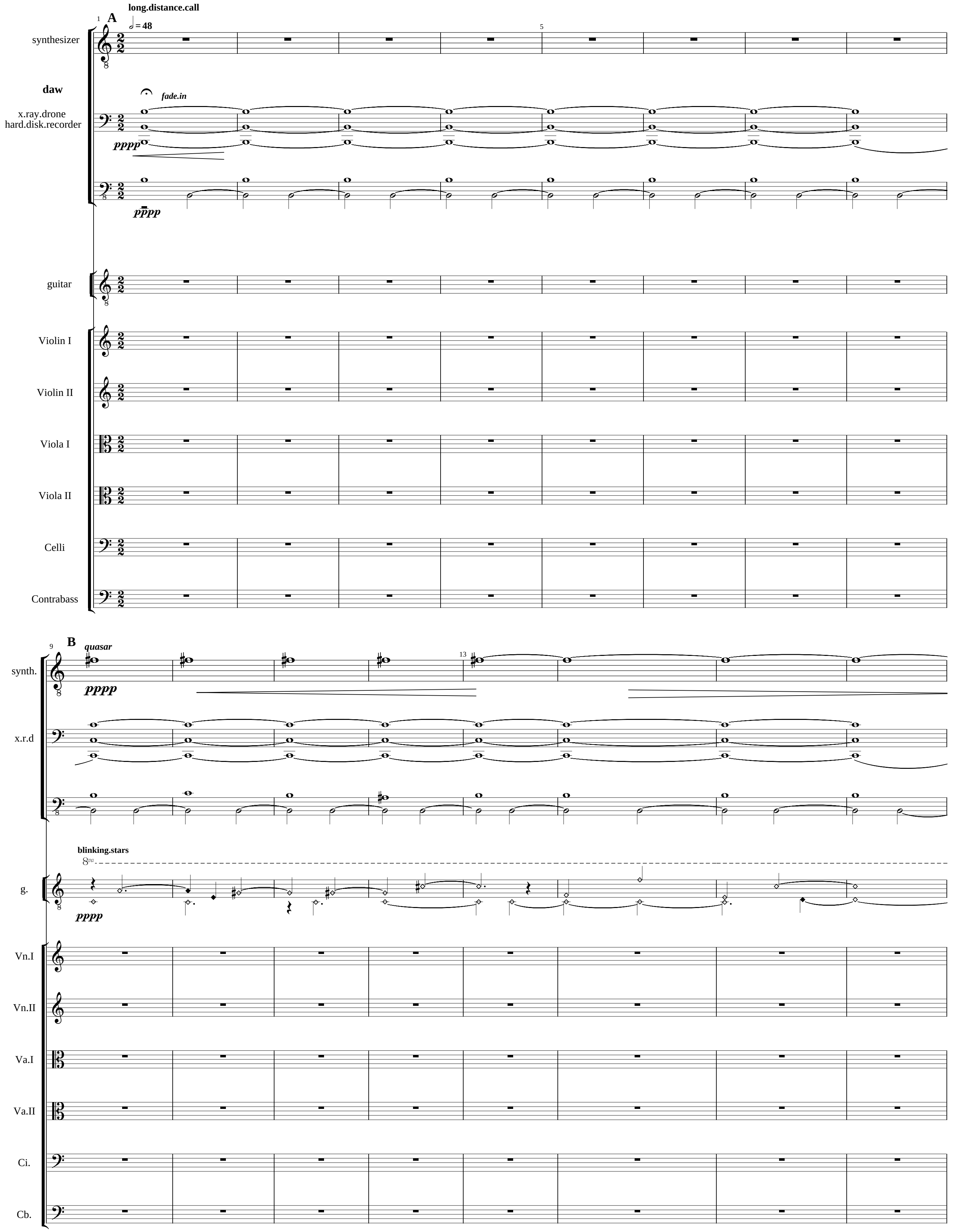
long.distance.call..interstellar.time.wind..super.nova..echoes

super.nova.4.daw.guitar.&.strings

nr.6://is.anybody.out.there

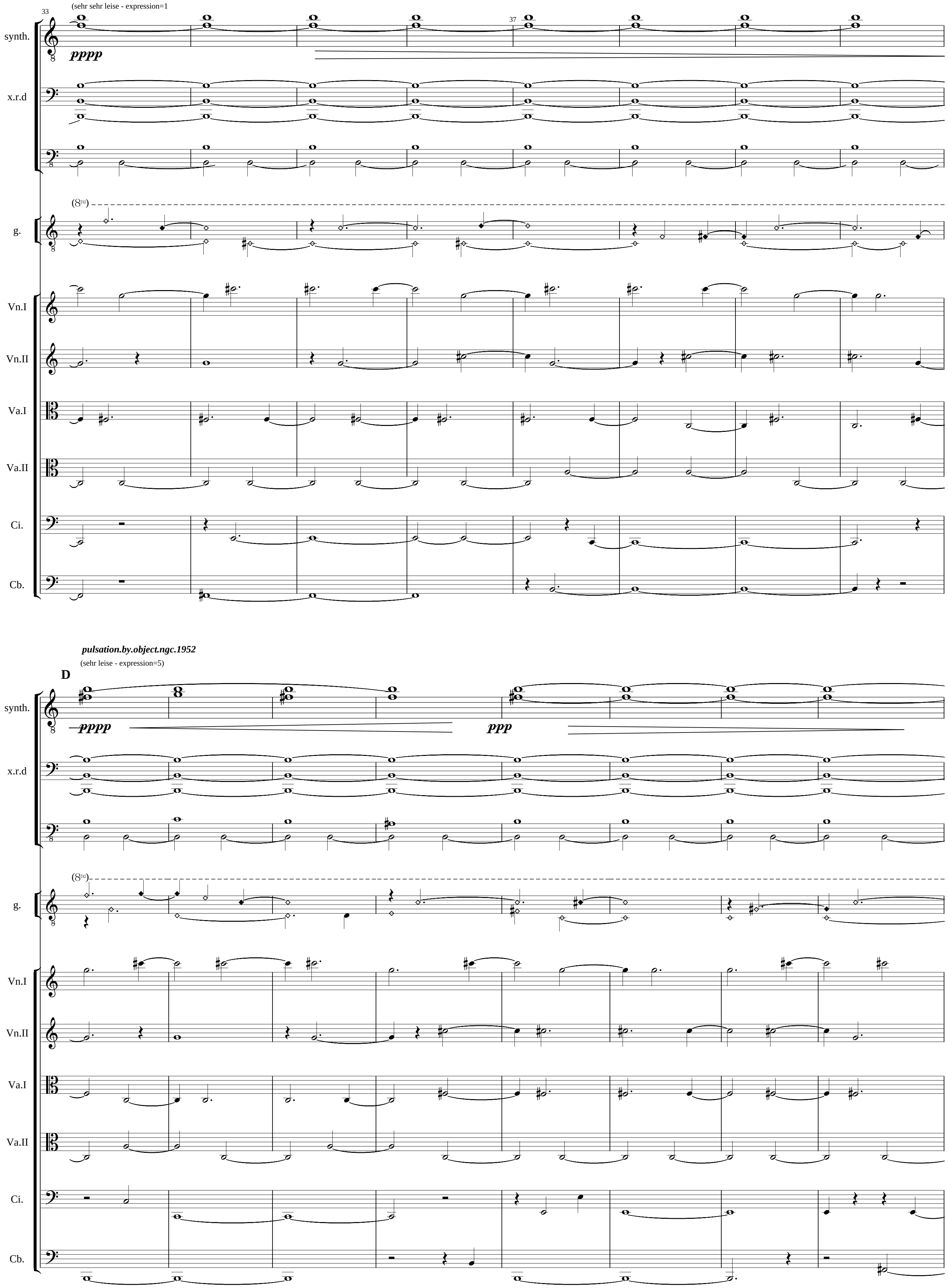
dedicated.2.harvey.starr
inventor.&.maker.of.ztar.midi.controller

music.designed.by
jovan.pesec
(2005)



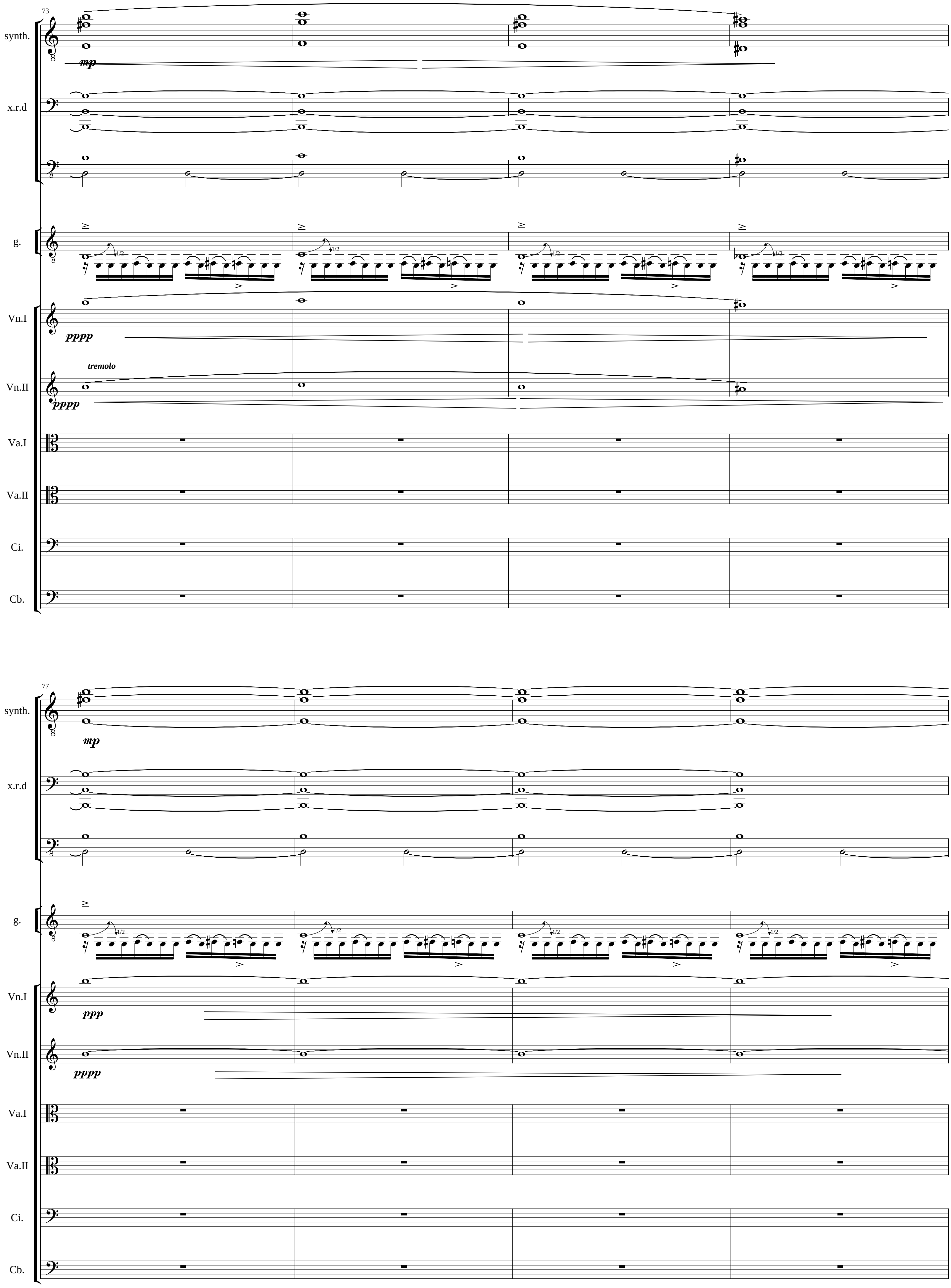
track.sources.generated.with.artsong.6
based.on.a.theme.by.gabriel.guillén

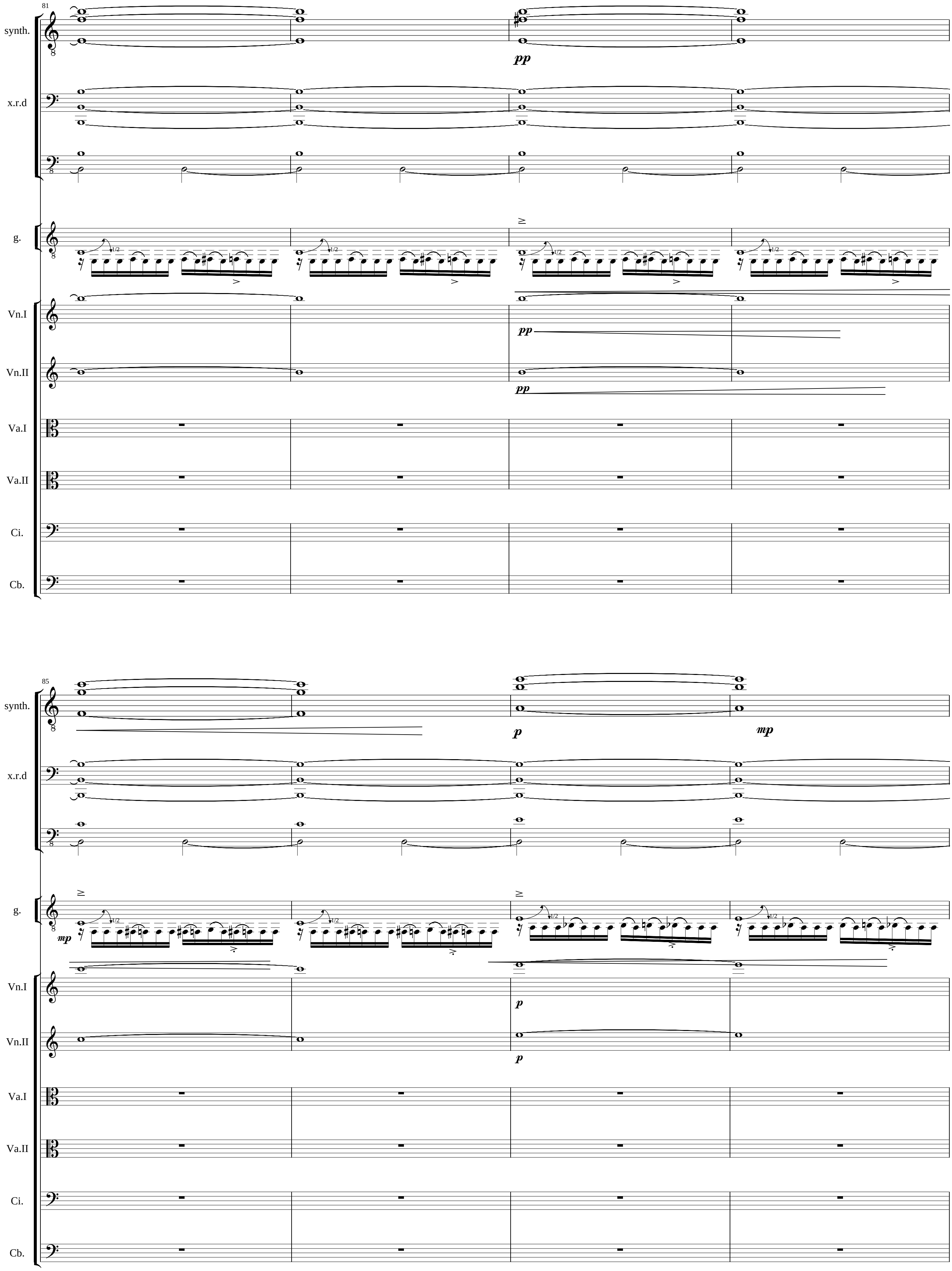

17
C
synth.
x.r.d
g.
Vn.I
Vn.II
Va.I
Va.II
Ci.
Cb.
(8va)
pizz.
pppp
pp
21
p
25
mp
29
mf


33
(sehr sehr leise - expression=1
37
synth.
pppp
x.r.d
g.
(8va)
Vn.I
Vn.II
Va.I
Va.II
Ci.
Cb.
pulsation.by.object.ngc.1952
(sehr leise - expression=5)
D
synth.
pppp
ppp
x.r.d
g.
(8va)
Vn.I
Vn.II
Va.I
Va.II
Ci.
Cb.


49
synth.
pp
p
x.r.d
(8va)
g.
Vn.I
Vn.II
Va.I
Va.II
Ci.
Cb.
57
synth.
mp
mf
x.r.d
g.
Vn.I
Vn.II
Va.I
Va.II
Ci.
Cb.


interstellar.time.wind
E
the.dark.of.the.universe
65
synth.
pppp
expression=127
x.r.d
g.
funky
p
1/2
Vn.I
Vn.II
Va.I
Va.II
Ci.
Cb.
69


73
synth.
mp
x.r.d
g.
1/2
Vn.I
pppp
Vn.II
tremolo
pppp
Va.I
Va.II
Ci.
Cb.
77
synth.
mp
x.r.d
g.
1/2
Vn.I
ppp
Vn.II
pppp
Va.I
Va.II
Ci.
Cb.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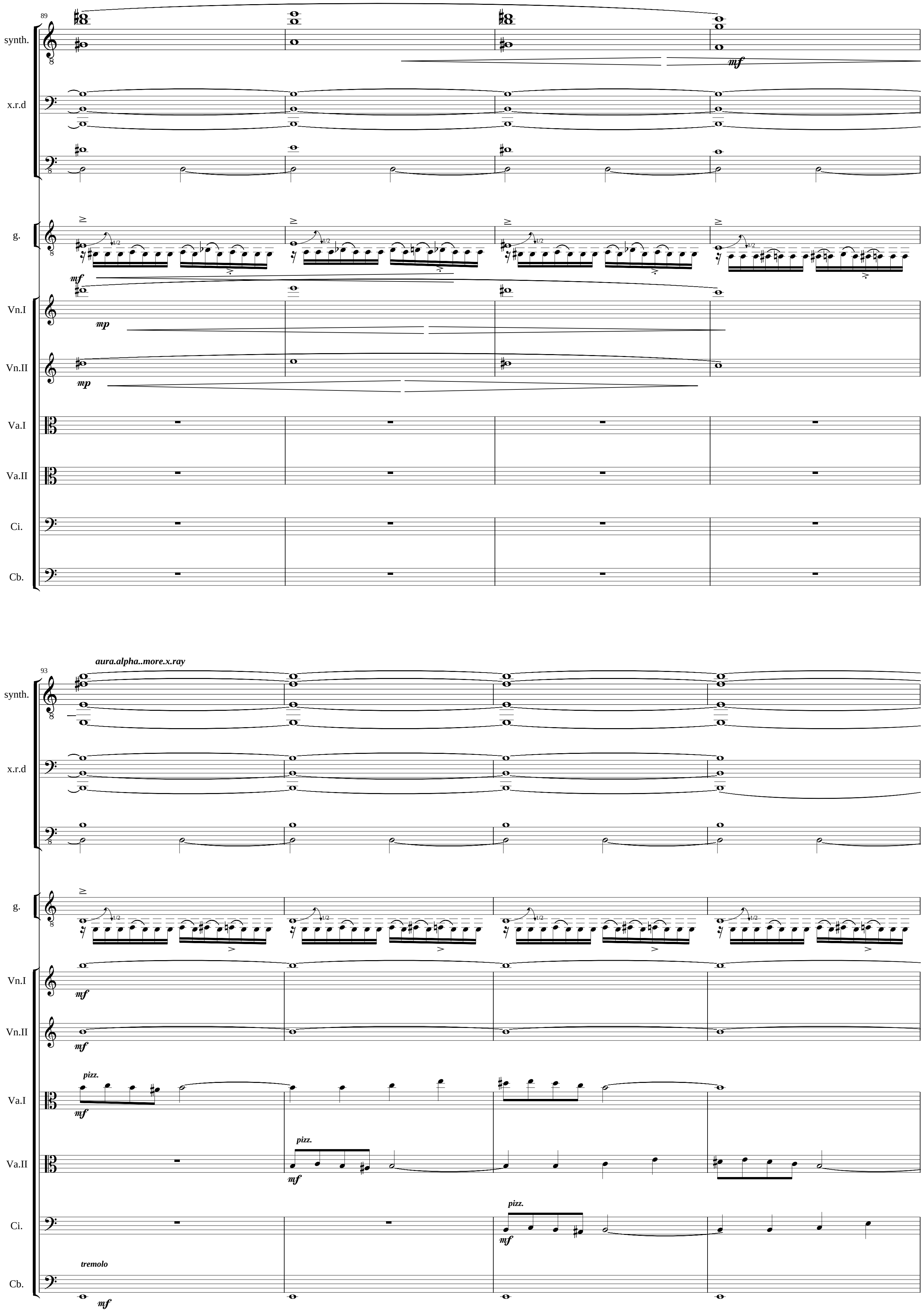
synth.
pp
x.r.d
g.
1/2
Vn.I
pp
Vn.II
pp
Va.I
Va.II
Ci.
Cb.
85
synth.
p
mp
x.r.d
g.
mp
1/2
Vn.I
p
Vn.II
p
Va.I
Va.II
Ci.
Cb.


89
synth.
x.r.d
g.
Vn.I
Vn.II
Va.I
Va.II
Ci.
Cb.
mf
mp
mp
93
aura.alpha..more.x.ray
synth.
x.r.d
g.
Vn.I
Vn.II
Va.I
Va.II
Ci.
Cb.
mf
mf
pizz.
mf
pizz.
mf
pizz.
mf
tremolo
mf

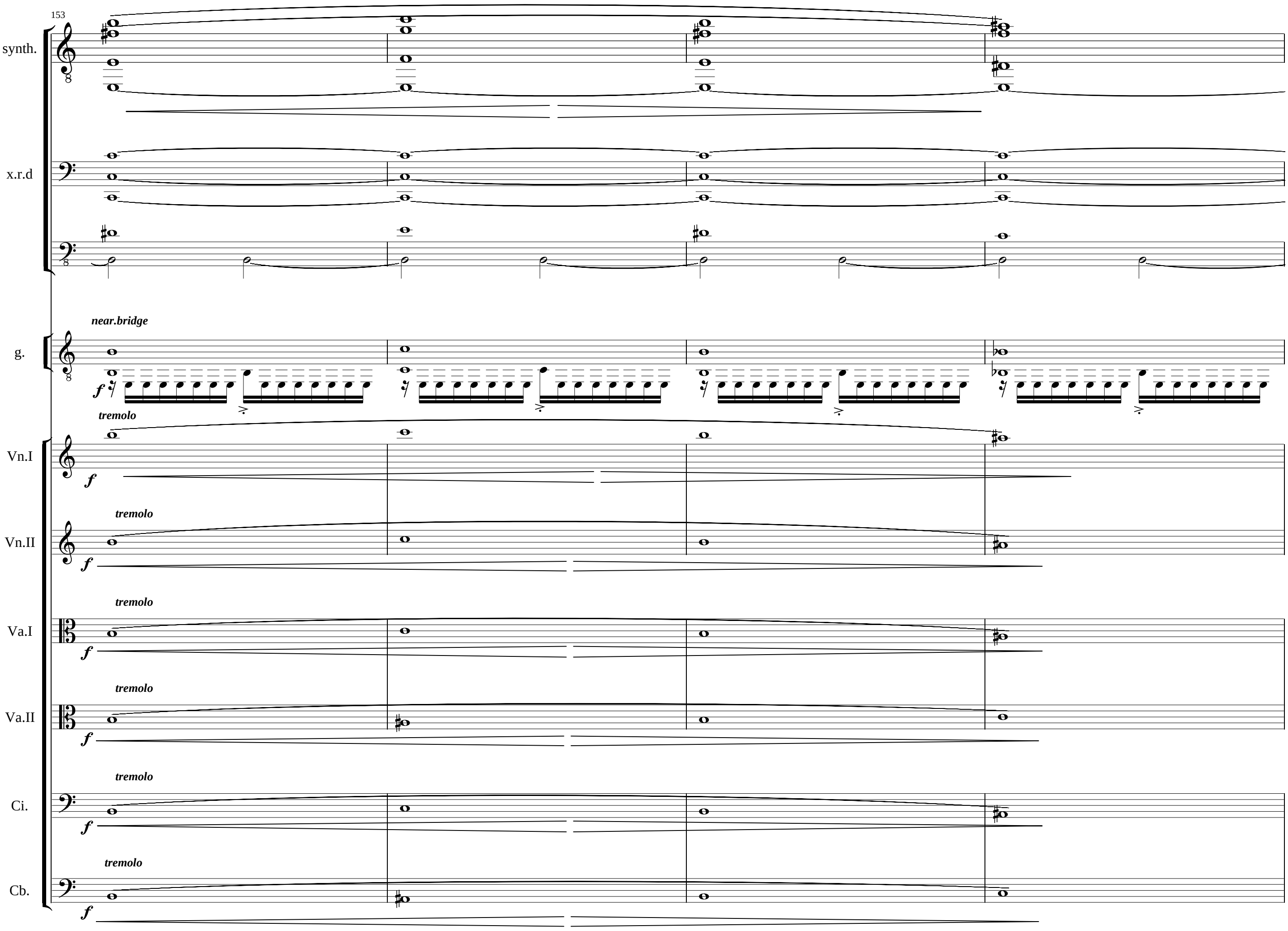

97
synth.
x.r.d
g.
1/2
Vn.I
Vn.II
Va.I
Va.II
Ci.
Cb.
101
synth.
x.r.d
g.
1/2
normal.soft
Vn.I
Vn.II
Va.I
Va.II
Ci.
Cb.


105
F
distonar.&..spaceblower
synth.
fff
x.r.d
g.
ff
Vn.I
arco
mf
Vn.II
arco
mf
Va.I
arco
mf
Va.II
arco
mf
Ci.
arco
mf
Cb.
arco
mf


109
synth.
x.r.d
g.
Vn.I
Vn.II
Va.I
Va.II
Ci.
Cb.
simile
113
G
blinking.stars
8va
ppp
pizz.
pp


H
121
quasar
synth.
pppp
x.r.d
g.
(8va)
Vn.I
pizz.
pp
Vn.II
pizz.
pp
Va.I
pizz.
pp
Va.II
pizz.
pp
Ci.
pizz.
pp
Cb.
129
synth.
pp
p
x.r.d
g.
(8va)
Vn.I
Vn.II
Va.I
Va.II
Ci.
Cb.


137
synth.
mp
mf
x.r.d
(8va)
g.
Vn.I
Vn.II
Va.I
Va.II
Ci.
Cb.
pulsation,by.object.ngc.1952
(sehr sehr leise - expr.=1)
145
I
synth.
pppp
f
x.r.d
(8va)
g.
Vn.I
Vn.II
Va.I
Va.II
Ci.
Cb.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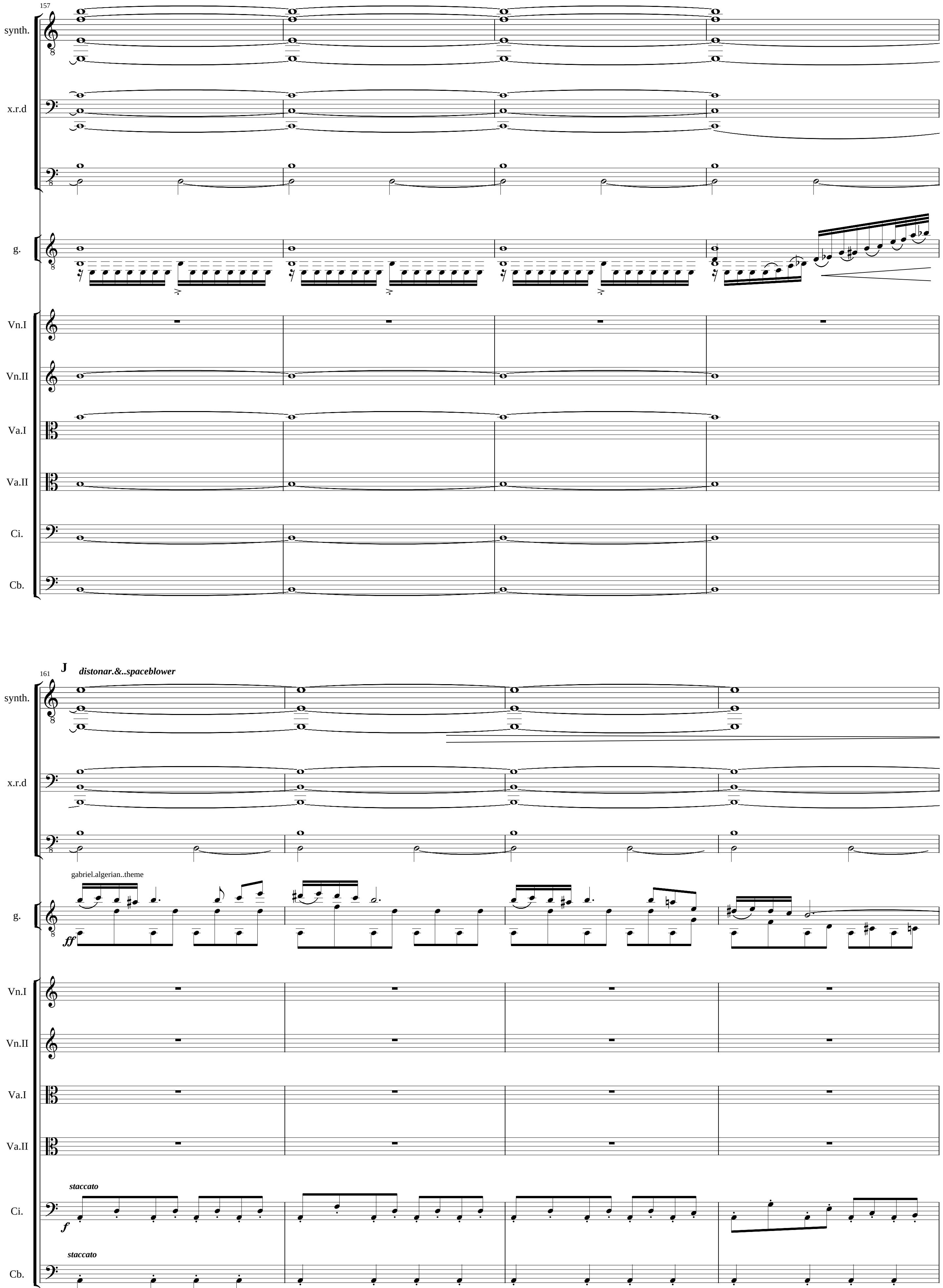
g.
tremolo
Vn.I
Vn.II
Va.I
Va.II
Ci.
Cb.


157
synth.
x.r.d
g.
Vn.I
Vn.II
Va.I
Va.II
Ci.
Cb.
161
J
distonar.&..spaceblower
gabriel.algerian..theme
ff
staccato
f


explosion.cluster
165
apokalypse.cluster
synth.
x.r.d
g.
arco.sustain
Vn.I
Vn.II
Va.I
Va.II
Ci.
Cb.
K
173
tambura
pizz.
sforzato.vibrato


L
big.space.ships.escaping
181
synth.
x.r.d
tambura
g.
Vn.I
Vn.II
Va.I
Va.II
Ci.
Cb.
f
189


197
synth.
x.r.d
g.
Vn.I
Vn.II
Va.I
Va.II
Ci.
ff
Cb.
ff
205
leise - expression=5
synth.
x.r.d
g.
Vn.I
Vn.II
Va.I
Va.II
Ci.
Cb.


M
super.nova
217
synth.
x.r.d
rasg.
g.
tremolo
Vn.I
mf
tremolo
Vn.II
mf
staccato
Va.I
mf
tremolo
Va.II
f
tremolo
Ci.
f
arco.sforzato.vibrato
Cb.
f
221
synth.
x.r.d
g.
Vn.I
f
Vn.II
f
Va.I
f
Va.II
ff
Ci.
ff
Cb.
f


225
synth.
x.r.d
g.
Vn.I
Vn.II
Va.I
Va.II
Ci.
Cb.
ff
229


233
synth.
x.r.d
g.
Vn.I
Vn.II
Va.I
Va.II
Ci.
Cb.
237
synth.
x.r.d
g.
Vn.I
Vn.II
Va.I
Va.II
Ci.
Cb.


241
synth.
x.r.d
g.
Vn.I
Vn.II
Va.I
Va.II
Ci.
Cb.
echoes
O
p
p
pp
pizz.
pppp
pizz.
pppp
249
ppp
fade.out

making.of.the.crab.nebula

Crab.Nebula.Image used in “the.long.distance.call”

The following informations were used as base of the composition:

The mysterious heart of the Crab Nebula

Probing the mysterious heart of the Crab Nebula, the tattered remains of a stellar cataclysm witnessed more than 900 years ago, astronomers using NASA's Hubble Space Telescope have found that the Crab is even more dynamic than previously understood, based on a cosmic "movie" assembled from a series of Hubble observations.
The results promise to shed new light on a variety of high energy phenomena in the universe, from nearby neutron stars to remote quasars.
Though changes in most astronomical objects are barely perceptible over a human lifetime, Hubble shows that the interior of the nebula "changes its stripes" every few days,

according to Jeff Hester of Arizona State University in Tempe, AZ, who leads the team of astronomers that took the Wide Field and Planetary Camera 2 (WFPC2) images.

"We took the images a few weeks apart because we knew that it might be possible to observe slight differences in the Crab over a short time," said Hester. "But I don't think that any of us were prepared for what we saw."

Though ground-based images of the Crab had shown subtle changes in the nebula over months or years, the Hubble movie shows sharp wisp-like features streaming away from the center of the nebula at half the speed of light.

The powerhouse at the center of the nebula responsible for these changes is a rapidly spinning neutron star — the compact core of the exploded star. Only about six miles (10 kilometers) across, the neutron star would fit inside a small town, "yet its small size belies its significance and the punch that it packs," said Hester.

As the neutron star spins on its axis 30 times a second, its twin searchlight beams sweep past the Earth, causing the neutron star to blink on and off. Because of this flickering, the neutron star is also called a "pulsar." In addition to the pulses, the neutron star's rapid rotation and intense magnetic field act as an immense slingshot, accelerating subatomic particles to close to the speed of light and flinging them off into space.

In a dramatic series of images assembled over several months of observation, Hubble shows what happens as this magnetic pulsar "wind" runs into the body of the Crab Nebula.

The glowing, eerie shifting patterns of light in the center of the Crab are created by electrons and positrons (anti-matter electrons) as they spiral around magnetic field lines and radiate away energy. This lights up the interior volume of the nebula, which is more than 10 light-years across.

The Hubble team finds that material doesn't move away from the pulsar in all directions, but instead is concentrated into two polar "jets" and a wind moving out from the star's equator.

The most dynamical feature in the inner part of the Crab is the point where one of the polar jets runs into the surrounding material forming a shock front. The shape and position of this feature shifts about so rapidly that the astronomers describe it as a "dancing sprite," or "a cat on a hot plate." The equatorial wind appears as a series of wisp-like features that steepen, brighten, then fade as they move away from the pulsar to well out into the main body of the nebula.

"Watching the wisps move outward through the nebula is a lot like watching waves crashing on the beach — except that in the Crab the waves are a light-year long and are moving through space at half the speed of light," said Hester. "You don't learn about ocean waves by staring at a snapshot. By their nature waves on the ocean are ever-changing. You learn about ocean waves by sitting on the beach and watching as they roll ashore. This Hubble 'movie' of the Crab is so significant because for the first time we are watching as these 'waves' from the Crab come rolling in."

The Crab Nebula, the result of a supernova explosion witnessed by Chinese astronomers in 1054 AD, also is widely studied because it offers a unique opportunity to study high energy astrophysical phenomena. The physical processes that are at work in the centers of distant active galaxies and quasars are thought to be much like the processes at work in the center of the Crab, only on a vastly larger scale. "The difference is that while astronomers may never truly 'see' into the very heart of an active galaxy, the Crab allows the properties and behavior of high energy winds and jets to be studied up close and personal," Hester said.

"The Hubble results aren't the end of the story," Hester emphasized. "Rather, they are a piece of a larger puzzle. For example, the jets seen streaming away from the pulsar in the Hubble data are of particular interest because they help explain two lobes of X-ray

emission seen extending away from the pulsar in images taken with the Einstein and ROSAT X-ray satellites."
In addition to Hester and Paul Scowen of Arizona State University, other members of the team responsible for this work include Ravi Sankrit of Arizona State University, Curt Michel of Rice University, Jay Gallagher of the University of Wisconsin at Madison, James Graham of the University of California at Berkeley, and Alan Watson of New Mexico State University. Release Date:
2:00PM (EDT) May 30, 1996

Peering into the Heart of the Crab Nebula

In the year 1054 A.D., Chinese astronomers were startled by the appearance of a new star, so bright that it was visible in broad daylight for several weeks. Today, the Crab Nebula is visible at the site of

the "Guest Star". Located about 6,500 light-years from Earth, the Crab Nebula is the remnant of a star that began its life with about 10 times the mass of our own Sun. Its life ended on July 4, 1054 when it exploded as a supernova. In this image, NASA's Hubble Space Telescope has zoomed in on the center of the Crab to reveal its structure with unprecedented detail.
The Crab Nebula data were obtained by Hubble's Wide Field and Planetary Camera 2 in 1995. Images taken with five different color filters have been combined to construct this new false-color picture. Resembling an abstract painting by Jackson Pollack, the image shows ragged shreds of gas that are expanding away from the explosion site at over 3 million miles per hour.
The core of the star has survived the explosion as a "pulsar," visible in the Hubble image as the lower of the two moderately bright stars to the upper left of center. The pulsar is a neutron star that spins on its axis 30 times a second. It heats its surroundings, creating the ghostly diffuse bluish-green glowing gas cloud in its vicinity, including a blue arc just to its right.
The colorful network of filaments is the material from the outer layers of the star that was expelled during the explosion. The picture is somewhat deceptive in that the filaments appear to be close to the pulsar. In reality, the yellowish green filaments toward the bottom of the image are closer to us, and approaching at some 300 miles per second. The orange and pink filaments toward the top of the picture include material behind the pulsar, rushing away from us at similar speeds.
The various colors in the picture arise from different chemical elements in the expanding gas, including hydrogen (orange), nitrogen (red), sulfur (pink), and oxygen (green). The shades of color represent variations in the temperature and density of the gas, as well as changes in the elemental composition. These chemical elements, some of them newly created during the evolution and explosion of the star and now blasted back into space, will eventually be incorporated into new stars and planets. Astronomers believe that the chemical elements in the Earth and even in our own bodies, such as carbon, oxygen, and iron, were made in other exploding stars billions of years ago.
Kris Davidson (U. Minn.) led the research team of William P. Blair (JHU), Robert A. Fesen (Dartmouth), Alan Uomoto (JHU), Gordon M. MacAlpine (U. Mich.), and Richard B.C. Henry (U. Okla.) in the collection of the HST data. The Hubble Heritage Team created the color image from black and white data processed by Dr. Blair.

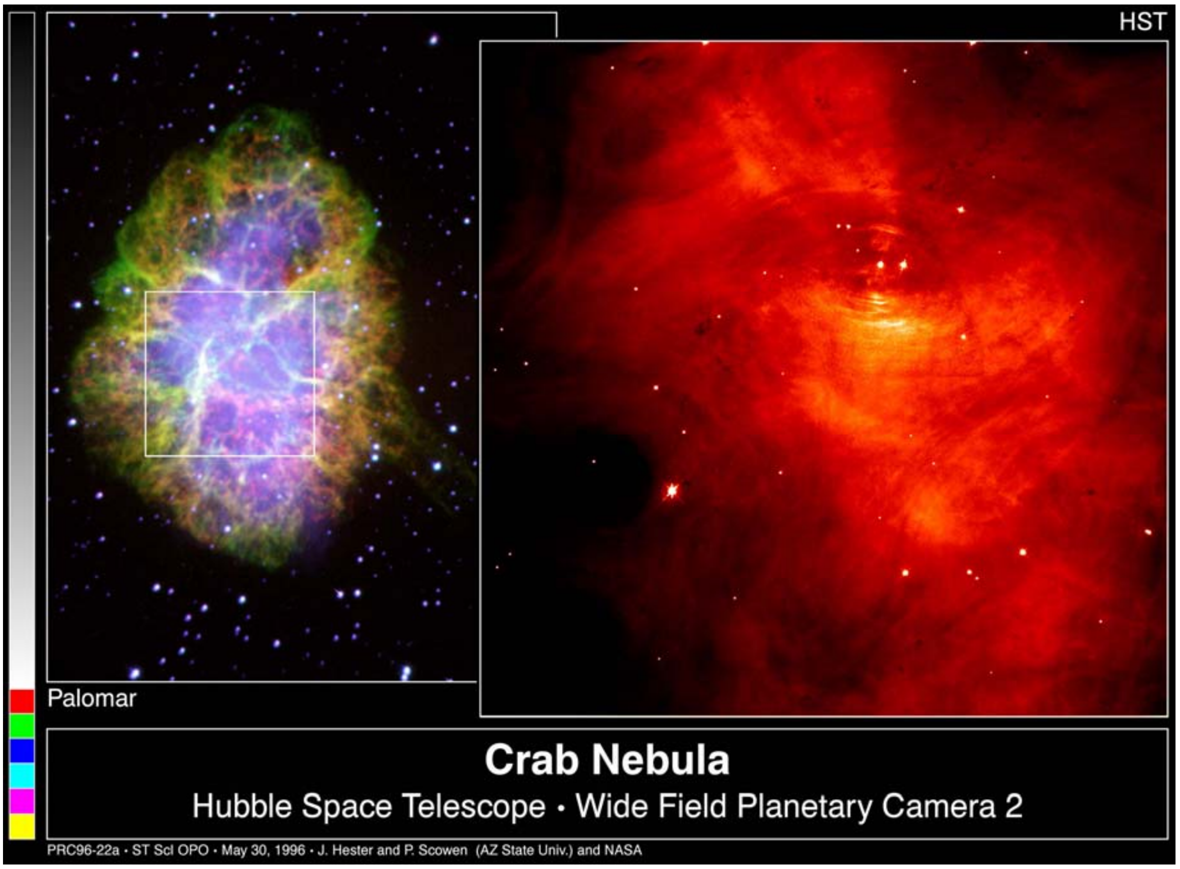
Credit: NASA and The Hubble Heritage Team (STScI/AURA)
Acknowledgment: W. P. Blair (JHU)
Image Type: Astronomical STScI-PRC2000-15

Shocking Secrets of the Crab Pulsar

Just when it seemed like the summer movie season had ended, two of NASA's Great Observatories have produced their own action movie. Multiple observations made over several months with NASA's Chandra X-ray Observatory and the Hubble Space Telescope captured the spectacle of matter and antimatter propelled to near the speed of light by the Crab pulsar, a rapidly rotating neutron star the size of Manhattan.
image "Through this movie, the Crab Nebula has come to life," said Jeff Hester of Arizona State University in Tempe, lead author of a paper in the September 20 issue of The Astrophysical Journal Letters. "We can see how this awesome cosmic generator actually works."
The Crab was first observed by Chinese astronomers in 1054 A.D. and has since become one of the most studied objects in the sky. By combining the power of Chandra and Hubble, the movie reveals features never before seen in still images. By understanding the Crab, astronomers hope to unlock the secrets of how similar objects across the universe are powered.
Bright wisps can be seen moving outward at half the speed of light to form an expanding ring that is visible in both X-ray and optical images. These wisps appear to originate from a shock wave that shows up as an inner X-ray ring. This ring consists of about two dozen knots that form, brighten and fade, jitter around, and occasionally undergo outbursts that give rise to expanding clouds of particles, but remain in roughly the same location.
"These data leave little doubt that the inner X-ray ring is the location of the shock wave that turns the high-speed wind from the pulsar into extremely energetic particles," said Koji Mori of Penn State University in University Park, a coauthor of the paper.
Another dramatic feature of the movie is a turbulent jet that lies perpendicular to the inner and outer rings. Violent internal motions are obvious, as is a slow motion outward into the surrounding nebula of particles and magnetic field.
"The jet looks like steam from a high pressure boiler," said David Burrows of Penn State, another coauthor of the paper. "Except when you realize you are looking at a stream of matter and anti-matter

electrons moving at half the speed of light!"
The inner region of the Crab Nebula around the pulsar was observed with Hubble on 24 occasions between August 2000 and April 2001 at 11-day intervals, and with Chandra on eight occasions between November 2000 and April 2001. The Crab was observed with Chandra's Advanced CCD Imaging Spectrometer and Hubble's Wide-Field Planetary Camera.
NASA's Marshall Space Flight Center in Huntsville, Ala., manages the Chandra program, and TRW, Inc., Redondo Beach, Calif., is the prime contractor. The Smithsonian's Chandra X-ray Center controls science and flight operations from Cambridge, Mass. The Space Telescope Science Institute is operated by the Association of Universities for Research in Astronomy, Inc. (AURA), for NASA, under contract with the Goddard Space Flight

Center, Greenbelt, Md. The Hubble Space Telescope is a project of international cooperation between NASA and the European Space Agency (ESA).
Release Date: 1:00PM (EDT) September 19, 2002 Release Number: STScI-2002-24



Right image used in “super.nova”

Fast Facts — Technical information

About the Object	Object Name: Crab Nebula . NGC 1952 Object Description: Supernova Remnant P osition (J2000): R.A. 05h 34m 32s Dec. +22° 00' 52" Constellation: Taurus Dimensions: The image is 2.24 arcminutes across Distance to Earth: About 6,000 light-years (1,850 parsecs)	
About the Data	Instrument: WFPC2 (F547M) Exposure Date(s): April 6, 2001 Eposure Time: 40 minutes Pricipal Astronomers: J.Hester and P. Scowen (ASU), C.Michel (Rice U.) J.Graham (UC Berkeley), J. Gallagher (U. of Wisconsin-Madison), A. Watson (UNAM - Morelia), R. Sankrit (JHU) Mission: HST	ACIS-S April 6,2001 6.5 hours J.Hester (ASU), K. Mori (Penn State U. and Osaka U.) D. Burrows (Penn Sate Univ.) J. Gallagher (U. of Wisconsin-Madision), J. Graham (UC Berkely), M. Halverson (U. of Wisconsin-Madison), A. Kader (ASU), F.C. Michel (Rice Univ.) and P. Scowen (ASU)
About the Image	Image Credit: X-ray: NASA/CXC/ASU/J.Hester et al Optical: NASA/HAST/ASU/J.Hester et al Release Date: Spetember 19, 2002	

This spreat sheet was used for the calculation of the guitars bass line with the ***textmapper*** of ***ArtSong 6***.

project.gim:\\is.anybody.out.there

jovan.pesec

the.crab.nebula

super.nova.4.daw.guitar.&.strings

future@vision4media.net

V4M

vision4media