```
; ------------------------ Saigai To Higai --------------- Composed by Sergim Veiga, 2014
<CsoundSynthesizer>
<CsOptions>
-d
-odac
;-o/home/sergim/Saigai-to-Higai.wav
;-+rtaudio=JACK
;-+jack_client=Saigai-to-Higai
;-odac:system:playback_
;-odac:Qtractor:Master/in_      ;   <---- conecta direto ao input do Qtractor
</CsOptions>
<CsInstruments>
sr = 44100
ksmps = 128
nchnls = 2
0dbfs = 280000
giosc1 OSCinit 8080
gkx init 0
gky init 0
gkz init 0
gaLinit 0
gaRinit 0
gaterre  init 0
giseno ftgen 1,0,8192,10,1
gienv ftgen 2,0,4096,20,2,1
;========================= ONDAS SÍSMICAS pelo OSC, o acelerometro do andOSC "/acc" ====
instr  55
kans1 OSClisten giosc1, "/acc", "fff", gkx,gky,gkz

   kporttime   linseg0,0.01,.02,.04,.02
   kfreqX        portk   gkx+20, kporttime
   kfreqY        portk   gky+20, kporttime
   kfreqZ        portk   (gkz+10)*2000, kporttime
avib     oscili kfreqZ,kfreqX*kfreqY, giseno
gaterre = avib
endin

instr 1    ;   <--- granulação para os ventos
kfreq linseg p4,p3/2,p5,p3/2,p4
kamp  linseg p6,p3/2,p7,p3/2,p6
kgfreqlinseg p8,p3/2,p9,p3/2,p8
kdeltalinseg p10,p3/2,p11,p3/2,p10
kgrao linseg p12,p3/2,p13,p3/2,p12
a1 grain kamp, kfreq, kgfreq, kamp,kdelta, kgrao, giseno, gienv, giseno
a2 grain kamp, kfreq, kgfreq, kamp,kdelta, kgrao, giseno, gienv, giseno
kenv  linseg 0,.003,1,p3-.006,1,.003,0
outs  a1*kenv,a2*kenv
gaL = gaL + a1
gaR = gaR + a2
;gaterre = gaterre + a2 + a1
endin
;=========================  som de impacto metálico   ===================
instr 2
a1 barmodel    1, 1, p4, 0.001, p5*10, 4, p5, p6, p7
aenv  linseg 0,.003,1,p3-.006,1,.003,0
a2 = a1*aenv
     outs      a2*0,a2*.7
     gaterre = gaterre + a2
;gaL = gaL + (a1*aenv)
;gaR = gaR + (a2*aenv)
endin
;=============================================
;========================= som de impacto metálico ====================
instr 7
a1 barmodel    1, 1, p4, 0.001, p5*10, 4, p5, p6, p7
aenv  linseg 0,.003,1,p3-.006,1,.003,0
a2 = a1*aenv
     outs      a2*.7,a2*0
```

```
     gaterre = gaterre + a2
;gaL = gaL + (a1*aenv)
;gaR = gaR + (a2*aenv)
endin
;======================= ruido branco filtrado (água)  ================
instr 3
kamp  linseg p4,p3/2,p5,p3/2,p4
kbeta linseg p6,p3/2,p7,p3/2,p6
a1 noise kamp, kbeta
kenv  linseg 0,.003,1,p3-.006,1,.003,0
outs  a1*kenv, a1*0
gaL = gaL + a1
gaR = gaR + a1
endin
;=======================  senoidais simples para pentatônicas  ==========
instr 4
aRandom = urd (p4)
afreq = aRandom*p5
a1 oscili   3000+gaterre,afreq,giseno
aenv  linseg 0,.02,1,p3-.04,1,.02,0
a2 = a1*aenv
outs a2,a2*0
gaR = gaR + a2
gaL = gaL + a2
endin
;=============================================
instr 5
aRandom = urd (p4)
afreq = aRandom*p5
a1 oscili   3000+gaterre,afreq,giseno
aenv  linseg 0,.02,1,p3-.04,1,.02,0
a2 = a1*aenv
outs a2*0,a2
gaR = gaR + a2
gaL = gaL + a2
endin
;=======================  Senoidais harmônicos de 131 e 137 - Iodo e Césio  ===========
instr 6
kcps  line  p4,p3,p5
ampline  p6,p3,p7
kgama line  p8,p3,p9
kFrGrao  line  p10,p3,p11
k1 randomh 4, kgama, kFrGrao
k2 randomh 4, kgama, kFrGrao
  a1 oscili amp+gaterre,kcps*int(k1), giseno
  a2 oscili amp+gaterre,kcps*int(k2), giseno
  aenv linseg 0,.004,1,p3-.008,1,.004,0
  outs a1*aenv*p12,a2*aenv*p13
gaL = gaL + (a1*aenv*p12)
gaR = gaR + (a2*aenv*p13)
endin
;=============================================
instr  99   ;REVERB

a1 reverb gaL, p4
a2 reverb gaR, p4
  aenv linseg 0,2,p5,p3-4,p5,2,0
outs   a1*aenv,a2*aenv
gaL = 0
gaR = 0
endin
;=======================  EXPLOSAO  =====================
instr 100
kfreq linseg p4/2,p3,p5
kamp  linseg p6,p3,p7
kgfreqlinseg p8,p3,p9
kdeltalinseg p10,p3,p11
```

```
kgrao linseg p12,p3,p13
a1 grain kamp, kfreq, kgfreq, kamp,kdelta, kgrao, giseno, gienv, giseno
a2 grain kamp, kfreq, kgfreq, kamp,kdelta, kgrao, giseno, gienv, giseno
kenv  linseg 0,.003,1,p3-.006,1,.003,0
outs  a1*kenv,a2*kenv
gaL = gaL + a1
gaR = gaR + a2
gaterre = gaterre + ((a1+a2)/4)
endin
</CsInstruments>
<CsScore>;                ----------   PARTITURA    -----------
t 0 50
f3 0 512 -41  1  1  1.125  1  1.265625  1  1.5  1  1.6875  1  2  1  2.25  1  2.53125  1  3
1  3.375  1  4  1  4.5  1  5.0625  1  6  1  6.75  1  8  1
f4 0 512 -41  1  1  1.125  1  1.185185185  1  1.5  1  1.5625  1  2  1  2.25  1  2.37037037
1  3  1  3.125  1  4  1  4.5  1  4.740740741  1  6  1  6.25  1  8  1
;               ----------    acima, funções para pentatônica maior e menor, para os instr 4 e
5
i55 0 272
i99 0 113 4 .17
i99 112 160 22 .2
;==================================== Ondas sismicas ==================
;Terremoto      Frequencia   amplitude    graoFreq     Delta     Grao

i1 9     5     22 44    0 4000      11 77    10 60    .03 .03
i1 16 10    22 44    0 8000      11 88    10 120   .03 .03

{ 5 CTR
i1 30 [3+$CTR.]22 44    0 [2000+(~*3000)] 11 77    11 55    .03 .03
i1 +  [5+$CTR.]22 44    0 [2000+(~*3000)] 11 88    11 66    .03 .03
i1 +  [7+$CTR.]22 44    0 [2000+(~*3000)] 11 66    11 77    .03 .03
i1 +  [5+$CTR.]22 44    0 [2000+(~*3000)] 11 88    11 66    .03 .03
i1 +  [5+$CTR.]22 44    0 [2000+(~*3000)] 11 88    11 66    .03 .03
i1 +  [5+$CTR.]22 44    0 [2000+(~*3000)] 11 88    11 66    .03 .03
}

i100   144     12    55 0     3000 0   200 0    300 0    .03 .03
i100   .    .     73 0     .   0 .   .    .   . .03 .03
i100   .    .     97 0     .   0 .   .    .   . .03 .03
i100   .    .     130 0    .   0 .   .    .   . .03 .03
i100   .    .     174 0    .   0 .   .    .  .  .03 .03
i100   .    .     231 0    .   0 .   .    .   . .03 .03
i100   .    .     309 0    .   0 .   .    .   . .03 .03
i100   .    .     412 0    .   0 .   .    .   . .03 .03
i100   .    .     549 0    .   0 .   .    .   . .03 .03
i100   .    .     732 0    .   0 .   .    .   . .03 .03
i100   .    .     976 0    .   0 .   .    .   . .03 .03
i100   .    .     1302 0   .   0 .   .    .   . .03 .03

i1 17210    22 44    0 3000      11 77    10 60    .03 .03
i1 +  1     22 44    0 6500      11 77    10 60    .03 .03
i1 +  3     22 44    0 4000      11 77    10 60    .03 .03
i1 +  6     22 44    0 2000      11 77    10 60    .03 .03
i1 +  8     22 44    0 5000      11 77    10 60    .03 .03
i1 +  7     22 44    0 4000      11 77    10 60    .03 .03
i1 +  6     22 44    0 2000      11 77    10 60    .03 .03
i1 +  5     22 44    0 8000      11 77    10 60    .03 .03
i1 +  4     22 44    0 3600      11 77    10 60    .03 .03
i1 +  3     22 44    0 4000      11 77    10 60    .03 .03
i1 +  2     22 44    0 5000      11 77    10 60    .03 .03
i1 +  1     22 44    0 6500      11 77    10 60    .03 .03
i1 +  13    22 44    0 0         11 77    10 60    .03 .03
i1 +  2     22 44    0 2000      11 77    10 60    .03 .03
;==================================== Barras de metal============
;         Tamanho      Posição      Amplitude Espacial
{ 5 CT
i2 [33+($CT. * .2)] [.6+(~*2)]  [10+(~*10)] [.1+(~*.7)] [2200+(~*600)] 0.01
```

```
{ 9 CM
i2 + [($CM.*.2)+(~*2)]  [10+(~*10)] [.1+(~*.7)] [1500+(~*900)]  .01
i2 + [($CM.*.2)+(~*2)]  [10+(~*10)] [.1+(~*.7)] [1500+(~*900)]  .
}
}

{ 5 CT
i7 [33+($CT. * .2)] [.6+(~*2)]  [10+(~*10)] [.1+(~*.7)] [2200+(~*600)] 0.01
{ 9 CM
i7 + [($CM.*.2)+(~*2)]  [10+(~*10)] [.1+(~*.7)] [1500+(~*900)]  .01
i7 + [($CM.*.2)+(~*2)]  [10+(~*10)] [.1+(~*.7)] [1500+(~*900)]  .
}
}


{ 5 CT
i2 [120+($CT. * .2)] [.6+(~*2)]  [10+(~*10)] [.1+(~*.7)] [1000+(~*600)] 0.01
{ 7 CM
i2 + [($CM.*.2)+(~*2)]  [(10-$CM)+(~*10)] [.1+(~*.7)] [1000+(~*900)]  .01
i2 + [($CM.*.2)+(~*2)]  [(10-$CM)+(~*10)] [.1+(~*.7)] [1000+(~*900)]  .
}
}

{ 5 CT
i7 [120+($CT. * .2)] [.6+(~*2)]  [10+(~*10)] [.1+(~*.7)] [1000+(~*600)] 0.01
{ 7 CM
i7 + [($CM.*.2)+(~*2)]  [(10-$CM)+(~*10)] [.1+(~*.7)] [1000+(~*900)]  .01
i7 + [($CM.*.2)+(~*2)]  [(10-$CM)+(~*10)] [.1+(~*.7)] [1000+(~*900)]  .
}
}
;============================ Vento e Agua===================
;Vento       Frequencia   amplitude graoFreq  Delta     Grao
{ 3
i1 70 [2+(~*5)]27.5 55     0 1000   33 77    20 60    .05 .02
{ 3
i1 +  [2+(~*5)]110 55   0 2000   33 77    20 100   .05 .02
i1 +  [2+(~*5)]220 55   0 3000   33 77    20 200   .05 .02
i1 +  [2+(~*5)]330 55   0 4000   33 77    20 400   .05 .02
i1 +  [2+(~*5)]330 55   0 3000   33 77    20 400   .05 .02
}
}
i1 12832 33 880   3000 3000   33 77    20 400   .02 .02

;Agua     Volume    Filtro
{ 3
i3 80 [2+(~*5)]3000 30001  .999
{ 3
i3 + [3+(~*4)] 2000 30001  .998
i3 + [4+(~*4)] 2000 50001  .994
i3 + [5+(~*4)] 2000 40001  .96
}
i3 + [18+(~*5)]400 5000    1  .5
}
;====================== música local =====================
;            escala Freq
i4 1 [(~ * .7) + .02 ]      3  220
{ 50 CT
i4 + [(~ * .7) + .02 ]      3  220
}
{ 130 CT
i4 + [(~ * .7) + .02 ]      4  220
}

i5 1 [(~ * .7) + .02 ]      3  220
{ 50
i5 + [(~ * .7) + .02 ]      3  220
}
```

```
{ 130
i5 + [(~ * .7) + .02 ]      4  130.812782
}
;======================= Radiação ==================
;      Freq         Amp       Gama      grainFreq
i6 118 26.001 27.5   100 3000    512 512     200 200     1 1
;Césio
i6 14416 137 137     3000 800 512 137     200 25   1 0
i6 160 90   137 137     800 100     137 24   25 9     1 0
;Iodo
i6 14416 131 131     3000 800 512 131     200 24   0 1
i6 160 90   131 131     800 100     131 24   24 7     0 1
e
</CsScore>
</CsoundSynthesizer>
```