CLAIMS:

1. An apparatus comprising at least one processor and at least one memory storing instructions that, when executed by the at least one processor, cause the apparatus at least to perform:

obtaining, with respect to at least two sources within an audio scene, ordered directional metadata parameters, the ordered directional metadata parameters associated with the at least two sources, the directional metadata parameters identifying a direction-of-arrival with respect to the at least two sources and arranged in frames arranged as a grid of time-frequency tiles with respect to a time-axis and a frequency axis, wherein each tile comprises at least two sets of at least one directional metadata parameters, one set for each of the at least two audio sources, wherein each set is associated with an order index defining an order among the at least two sets in the tile to provide the ordered directional metadata parameters;

for a first time-frequency tile and a, neighbouring, second time-frequency tile, wherein the first tile has a first set of at least one directional metadata parameter having a first order index and a second set of at least one directional metadata parameter having a second order index, wherein the second tile has a third set of at least one directional metadata parameter having the first order index and a fourth set of at least one directional metadata parameter having the second order index:

determining a first difference measure by determining a difference between the first and third set and a difference between the second and fourth set; and

determining a second difference measure by determining a difference between the first and fourth set and a difference between the second and third set; and upon the first difference measure being larger than, or equal to the second difference measure, interchanging the order indexes of the first and second set.

2. The apparatus of claim 1, wherein each set of the first, second, third and fourth set comprises an azimuth parameter of the direction-of-arrival and an elevation parameter of the direction-of-arrival.

3. The apparatus of claim 2, caused to perform determining the first difference measure by:

$$\cos^{-1}\left(\cos\left(\phi_{1_1}\right)\cos\left(\phi_{2_1}\right)\cos\left(\theta_{1_1}-\theta_{2_1}\right)+\sin\left(\phi_{1_1}\right)\sin\left(\phi_{2_2}\right)\right)+$$
$$\cos^{-1}\left(\cos\left(\phi_{1_2}\right)\cos\left(\phi_{2_2}\right)\cos\left(\theta_{1_2}-\theta_{2_2}\right)+\sin\left(\phi_{1_2}\right)\sin\left(\phi_{2_2}\right)\right)$$

and caused to perform determining the second difference measure by:

$$\cos^{-1}\left(\cos\left(\phi_{1_1}\right)\cos\left(\phi_{2_2}\right)\cos\left(\theta_{1_1}-\theta_{2_2}\right)+\sin\left(\phi_{1_1}\right)\sin\left(\phi_{2_2}\right)\right)+$$
$$\cos^{-1}\left(\cos\left(\phi_{1_2}\right)\cos\left(\phi_{2_1}\right)\cos\left(\theta_{1_2}-\theta_{2_1}\right)+\sin\left(\phi_{1_2}\right)\sin\left(\phi_{2_1}\right)\right)$$

wherein ϕ_{1_1} is the elevation parameter of the first set, wherein ϕ_{1_2} is the elevation parameter of the second set, wherein ϕ_{2_1} is the elevation parameter of the third set, wherein ϕ_{2_2} is the elevation parameter of the fourth, wherein θ_{1_1} is the azimuth parameter of the first set, wherein θ_{1_2} is the azimuth parameter of the second set, wherein θ_{2_1} is the azimuth parameter of the third set, and wherein θ_{2_2} is the azimuth parameter of the fourth set.

4. The apparatus as claimed in any one of claims 1-3, wherein each set the first, second, third and fourth set is associated with a direct-to-total energy ratio and a spread coherence.

5. The apparatus as claimed in any one of claims 1-4, further caused to perform, after interchanging the order indexes:

combining the at least one directional metadata parameter having the first order index in the first time-frequency tile with the at least one directional metadata parameter having the first order index in the second time-frequency tile; and

combining the at least one directional metadata parameter having the second order index in the first time-frequency tile with the at least one directional metadata parameter having the second order index in the second time-frequency tile.

6. The apparatus as claimed in any of claims 1 to 5, wherein the neighbouring time-frequency tile is at least one of:

a preceding time time-frequency tile;

a succeeding time time-frequency tile;

a preceding frequency time-frequency tile;

a succeeding frequency time-frequency tile;

a preceding time and frequency time-frequency tile;

a succeeding time and frequency time-frequency tile;

a preceding time and succeeding frequency time-frequency tile; and

a succeeding time and preceding frequency time-frequency tile.

7. The apparatus as claimed in any of claims 1 to 6, wherein: frames are arranged consecutively in time; the first time-frequency tile is comprised by a first frame and the neighbouring, second time-frequency tile is comprised by a second frame; and wherein either:

the first time-frequency tile is a final time-frequency tile in the first frame; the second time-frequency tile is a first time-frequency tile in the second frame; and the second frame immediately follows the first frame in time, or;

the first time-frequency tile is a first time-frequency tile in the first frame; the second time-frequency tile is a final time-frequency tile in the second frame; and the first frame immediately follows the second frame in time.

8. A method for an apparatus comprising:

obtaining, with respect to at least two sources within an audio scene, ordered directional metadata parameters, the ordered directional metadata parameters associated with the at least two sources, the directional metadata parameters identifying a direction-of-arrival with respect to the at least two sources and arranged in frames arranged as a grid of time-frequency tiles with respect to a time-axis and a frequency axis, wherein each tile comprises at least two sets of at least one directional metadata parameters, one set for each of the at least two audio sources, wherein each set is associated with an order index defining an order among the at least two sets in the tile to provide the ordered directional metadata parameters;

for a first time-frequency tile and a, neighbouring, second time-frequency tile, wherein the first tile has a first set of at least one directional metadata parameter having a first order index and a second set of at least one directional metadata parameter having a second order index, wherein the second tile has a third set of at least one directional metadata parameter having the first order index and a fourth set of at least one directional metadata parameter having the second order index:

determining a first difference measure by determining a difference between the first and third set and a difference between the second and fourth set; and

determining a second difference measure by determining a difference between the first and fourth set and a difference between the second and third set; and upon the first difference measure being larger than, or equal to the second difference measure, interchanging the order indexes of the first and second set.

9. The method of claim 8, wherein each set of the first, second, third and fourth set comprises an azimuth parameter of the direction-of-arrival and an elevation parameter of the direction-of-arrival.

10. The method of claim 9 comprising, determining the first difference measure by:

$$\cos^{-1}\left(\cos\left(\phi_{1_1}\right)\cos\left(\phi_{2_1}\right)\cos\left(\theta_{1_1}-\theta_{2_1}\right)+\sin\left(\phi_{1_1}\right)\sin\left(\phi_{2_2}\right)\right)+$$
$$\cos^{-1}\left(\cos\left(\phi_{1_2}\right)\cos\left(\phi_{2_2}\right)\cos\left(\theta_{1_2}-\theta_{2_2}\right)+\sin\left(\phi_{1_2}\right)\sin\left(\phi_{2_2}\right)\right)$$

and determining the second difference measure by:

$$\cos^{-1}\left(\cos\left(\phi_{1_1}\right)\cos\left(\phi_{2_2}\right)\cos\left(\theta_{1_1}-\theta_{2_2}\right)+\sin\left(\phi_{1_1}\right)\sin\left(\phi_{2_2}\right)\right)+$$
$$\cos^{-1}\left(\cos\left(\phi_{1_2}\right)\cos\left(\phi_{2_1}\right)\cos\left(\theta_{1_2}-\theta_{2_1}\right)+\sin\left(\phi_{1_2}\right)\sin\left(\phi_{2_1}\right)\right)$$

wherein ϕ_{1_1} is the elevation parameter of the first set, wherein ϕ_{1_2} is the elevation parameter of the second set, wherein ϕ_{2_1} is the elevation parameter of the third set, wherein ϕ_{2_2} is the elevation parameter of the fourth, wherein θ_{1_1} is the azimuth parameter of the first set, wherein θ_{1_2} is the azimuth parameter of the second set, wherein θ_{2_1} is the azimuth parameter of the third set, and wherein θ_{2_2} is the azimuth parameter of the fourth set.

11. The method as claimed in any one of claims 8-10, wherein each set of the first, second, third and fourth set is associated with a direct-to-total energy ratio and a spread coherence.

12. The method as claimed in any one of claims 8-11, further comprising, after interchanging the order indexes:

combining the at least one directional metadata parameter having the first order index in the first time-frequency tile with the at least one directional metadata parameter having the first order index in the second time-frequency tile; and

combining the at least one directional metadata parameter having the second order index in the first time-frequency tile with the at least one directional metadata parameter having the second order index in the second time-frequency tile.

13. The method as claimed in any of claims 8 to 12, wherein the at least one neighbouring time-frequency tile directional metadata parameter is at least one of: a preceding time time-frequency tile;

a succeeding time time-frequency tile;

a preceding frequency time-frequency tile;

a succeeding frequency time-frequency tile;

a preceding time and frequency time-frequency tile;

a succeeding time and frequency time-frequency tile;

a preceding time and succeeding frequency time-frequency tile; and

a succeeding time and preceding frequency time-frequency tile.

14. The method as claimed in any of claims 8 to 13, wherein:

the frames are arranged consecutively in time; the first time-frequency tile is comprised by a first frame and the neighbouring, second time-frequency tile is comprised by a second frame; and wherein either:

the first time-frequency tile is a final time-frequency tile in the first frame; the second time-frequency tile is a first time-frequency tile in the second frame; and the second frame immediately follows the first frame in time, or;

the first time-frequency tile is a first time-frequency tile in the first frame; the second time-frequency tile is a final time-frequency tile in the second frame; and the first frame immediately follows the second frame in time.

15. A non-transitory computer readable medium comprising instructions which, when executed by an apparatus, cause the apparatus to perform at least the following:

obtaining, with respect to at least two sources within an audio scene, ordered directional metadata parameters, the ordered directional metadata parameters associated with the at least two sources, the directional metadata parameters identifying a direction-of-arrival with respect to the at least two sources and arranged in frames arranged as a grid of time-frequency tiles with respect to a time-axis and a frequency axis, wherein each tile comprises at least two sets of at least one directional metadata parameters, one set for each

of the a least two audio sources, wherein each set is associated with an order index defining an order among the at least two sets in the tile to provide the ordered directional metadata parameters;

for a first time-frequency tile and a, neighbouring, second time-frequency tile, wherein the first tile has a first set of at least one directional metadata parameter having a first order index and a second set of at least one directional metadata parameter having a second order index, wherein the second tile has a third set of at least one directional metadata parameter having the first order index and a fourth set of at least one directional metadata parameter having the second order index:

determining a first difference measure by determining a difference between the first and third set and a difference between the second and fourth set; and

determining a second difference measure by determining a difference between the first and fourth set and a difference between the second and third set; and upon the first difference measure being larger than, or equal to the second difference measure, interchanging the order indexes of the first and second sets.

16. The non-transitory computer readable medium of claim 15, wherein each set of the first, second, third and fourth set comprises an azimuth parameter of the direction-of-arrival and an elevation parameter of the direction-of-arrival.

17. The non-transitory computer-readable medium of claim 16, wherein the instructions when executed, further cause the apparatus to:

determine the first difference measure by:

$$\cos^{-1}\left(\cos\left(\phi_{1_1}\right)\cos\left(\phi_{2_1}\right)\cos\left(\theta_{1_1}-\theta_{2_1}\right)+\sin\left(\phi_{1_1}\right)\sin\left(\phi_{2_2}\right)\right)+$$
$$\cos^{-1}\left(\cos\left(\phi_{1_2}\right)\cos\left(\phi_{2_2}\right)\cos\left(\theta_{1_2}-\theta_{2_2}\right)+\sin\left(\phi_{1_2}\right)\sin\left(\phi_{2_2}\right)\right)$$

and determining the second difference measure by:

$$\cos^{-1}\left(\cos\left(\phi_{1_1}\right)\cos\left(\phi_{2_2}\right)\cos\left(\theta_{1_1}-\theta_{2_2}\right)+\sin\left(\phi_{1_1}\right)\sin\left(\phi_{2_2}\right)\right)+$$
$$\cos^{-1}\left(\cos\left(\phi_{1_2}\right)\cos\left(\phi_{2_1}\right)\cos\left(\theta_{1_2}-\theta_{2_1}\right)+\sin\left(\phi_{1_2}\right)\sin\left(\phi_{2_1}\right)\right)$$

wherein ϕ_{1_1} is the elevation parameter of the first set, wherein ϕ_{1_2} is the elevation parameter of the second set, wherein ϕ_{2_1} is the elevation parameter of the third set, wherein ϕ_{2_2} is the elevation parameter of the fourth, wherein θ_{1_1} is the azimuth parameter of the first

set, wherein θ_{1_2} is the azimuth parameter of the second set, wherein θ_{2_1} is the azimuth parameter of the third set, and wherein θ_{2_2} is the azimuth parameter of the fourth set.

18. The non-transitory computer-readable medium of any of claims 15-17, wherein each set of the first, second, third and fourth set is associated with a direct-to-total energy ratio and a spread coherence.

19. The non-transitory computer-readable medium of any of claims 15-18, wherein the instructions when executed, further cause the apparatus to, after interchanging the order indexes:

combine the at least one directional metadata parameter having the first order index in the first time-frequency tile with the at least one directional metadata parameter having the first order index in the second time-frequency tile; and

combine the at least one directional metadata parameter having the second order index in the first time-frequency tile with the at least one directional metadata parameter having the second order index in the second time-frequency tile.

20. The non-transitory computer-readable medium of any of claims 15-19, wherein the neighbouring time-frequency tile is at least one of:

a preceding time time-frequency tile;

a succeeding time time-frequency tile;

a preceding frequency time-frequency tile;

a succeeding frequency time-frequency tile;

a preceding time and frequency time-frequency tile;

a succeeding time and frequency time-frequency tile;

a preceding time and succeeding frequency time-frequency tile; and

a succeeding time and preceding frequency time-frequency tile.

21. The non-transitory computer-readable medium of any of claims 15-20, wherein:

frames are arranged consecutively in time; the first time-frequency tile is comprised by a first frame and the neighbouring, second time-frequency tile is comprised by a second frame; and wherein either:

the first time-frequency tile is a final time-frequency tile in the first frame; the second time-frequency tile is a first time-frequency tile in the second frame; and the second frame immediately follows the first frame in time, or;

the first time-frequency tile is a first time-frequency tile in the first frame; the second time-frequency tile is a final time-frequency tile in the second frame; and the first frame immediately follows the second frame in time.