Psychoacoustic evidence for stronger discrimination suppression of spatial information conveyed by lag-click interaural time than interaural level differences

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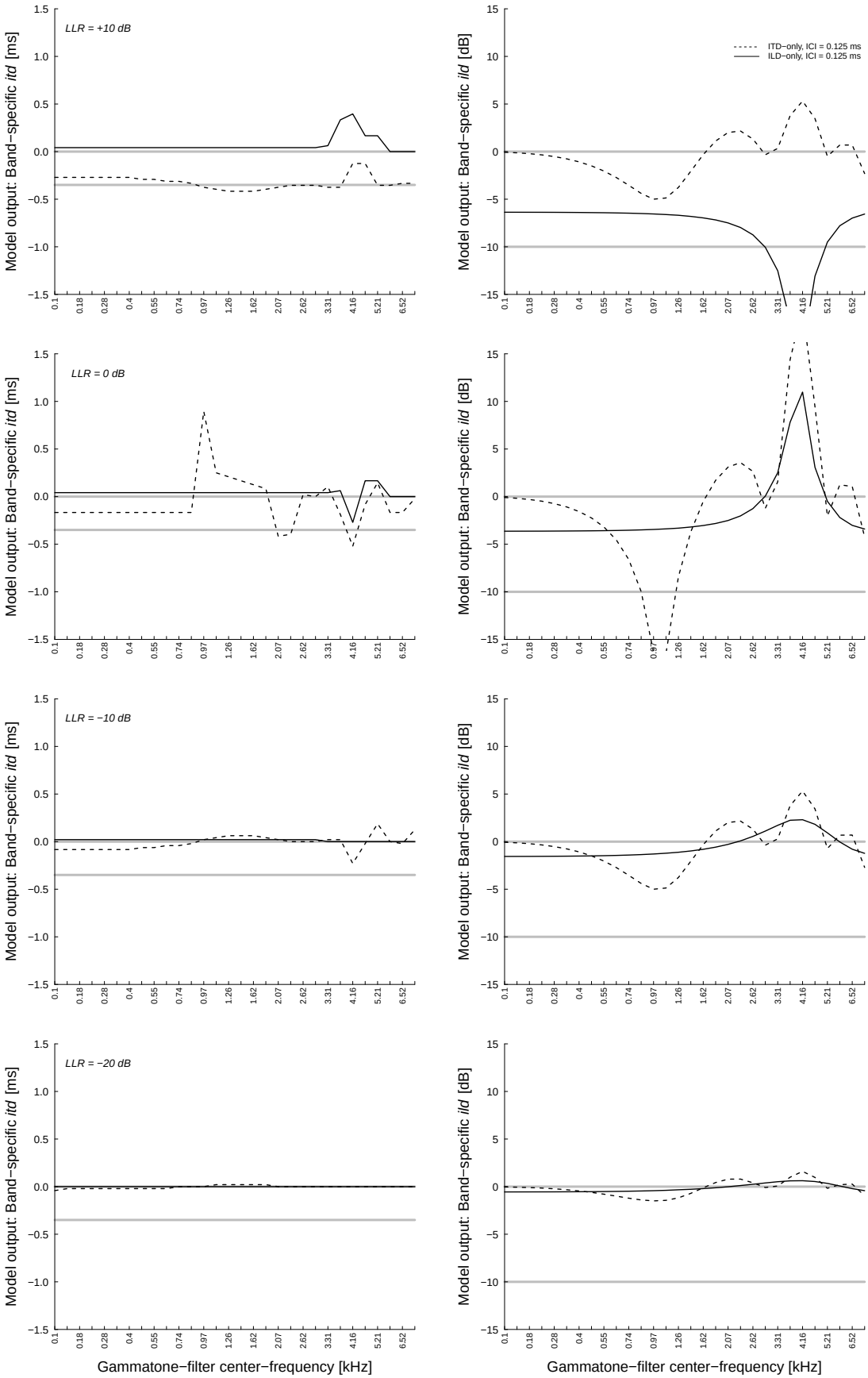
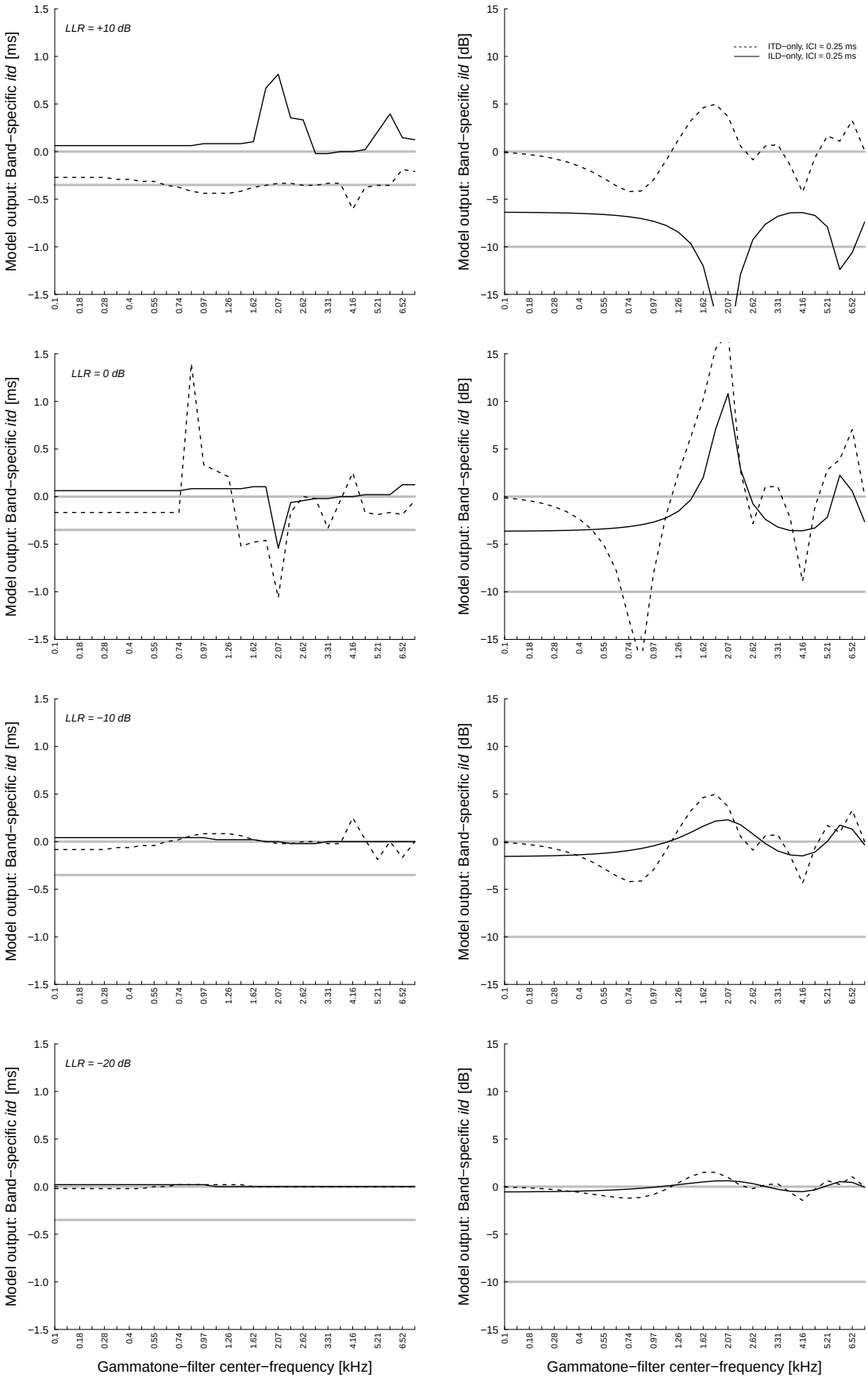
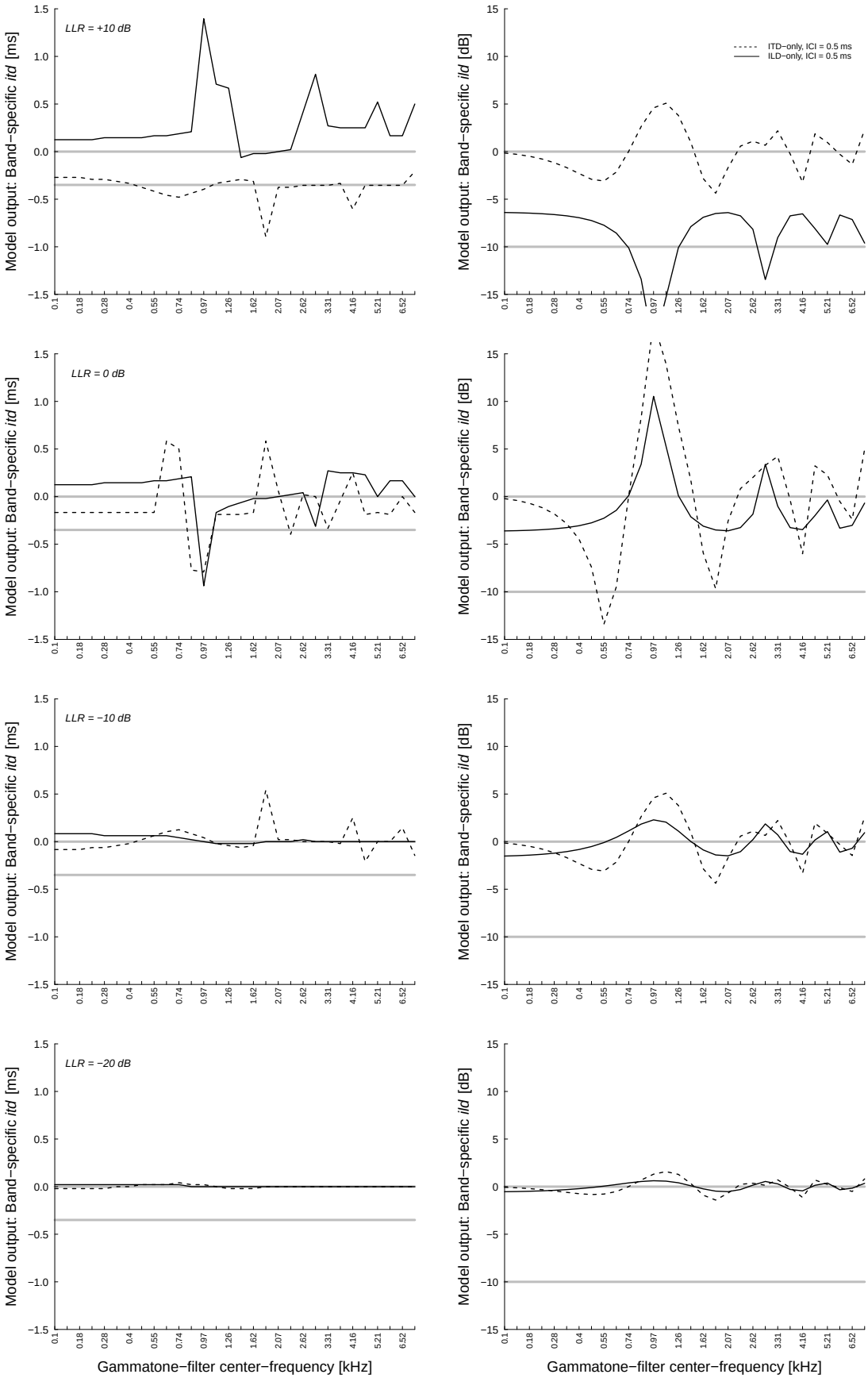
Auditory modeling of binaural cues: additional figures.

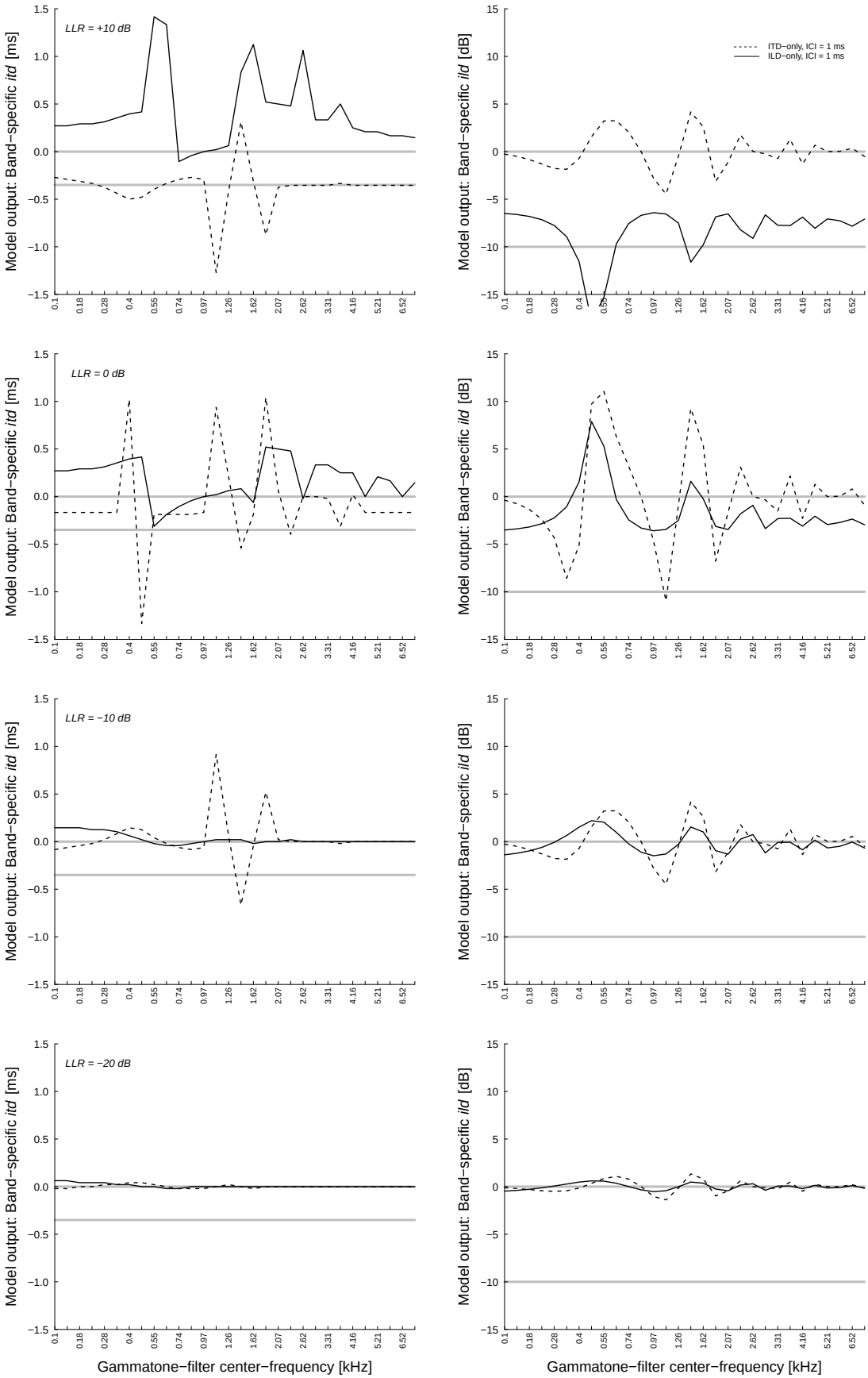
The figures on the following pages show modeling results corresponding to Fig. 4 of the manuscript, for inter-click intervals (ICIs) of 0.125, 0.25, 0.5, 1, 2, 4, and 8 ms. Note that Fig. 4 of the manuscript (ICI = 4 ms) also contained data on percent correct responses from the extra experiment, such data is not included in the following figures.

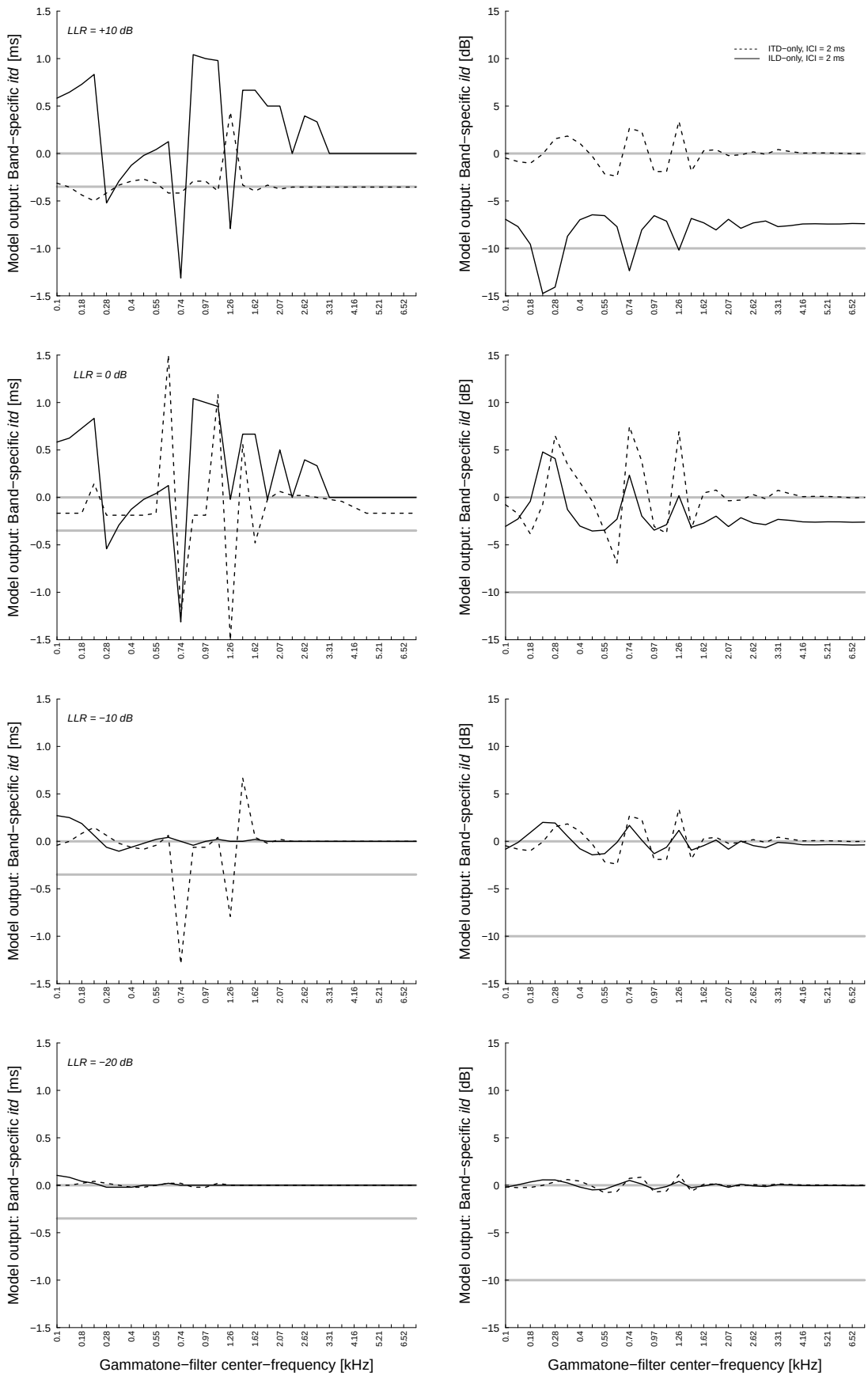
Each figure show modeled interaural time differences, *itd* (left-hand panels), and interaural level differences, *ild* (right-hand panels), calculated from the output of 30 gammatone filters for ITD-only (dashed lines) and ILD-only stimuli (solid lines) with a specific ICI (specified in the upper right diagram of each figure). Upper to lower rows of panels show results for stimuli with LLRs of +10, 0, –10, and –20 dB. The horizontal grey lines in the left-hand panels show the interaural time differences of the ILD-only and ITD-only stimuli (0 and –0.35 ms, respectively). The horizontal grey lines in the right-hand panels show the interaural level differences of the ITD-only and ILD-only stimuli (0 and –10 dB, respectively).

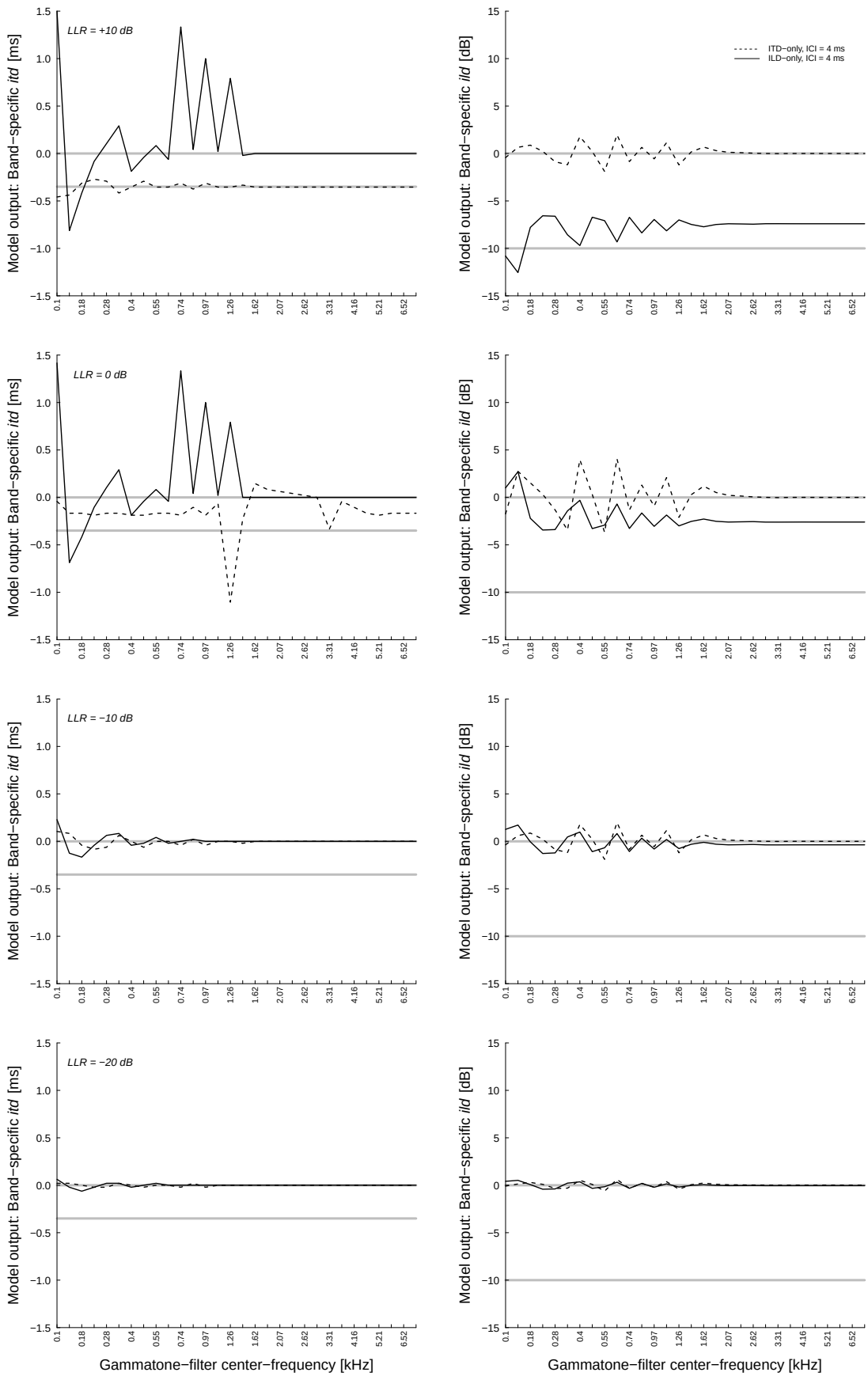

LLR = +10 dB
LLR = 0 dB
LLR = −10 dB
LLR = −20 dB
ITD−only, ICI = 0.125 ms
ILD−only, ICI = 0.125 ms
Model output: Band−specific itd [ms]
Model output: Band−specific ild [dB]
Gammatone−filter center−frequency [kHz]
Gammatone−filter center−frequency [kHz]
0.1
0.18
0.28
0.4
0.55
0.74
0.97
1.26
1.62
2.07
2.62
3.31
4.16
5.21
6.52

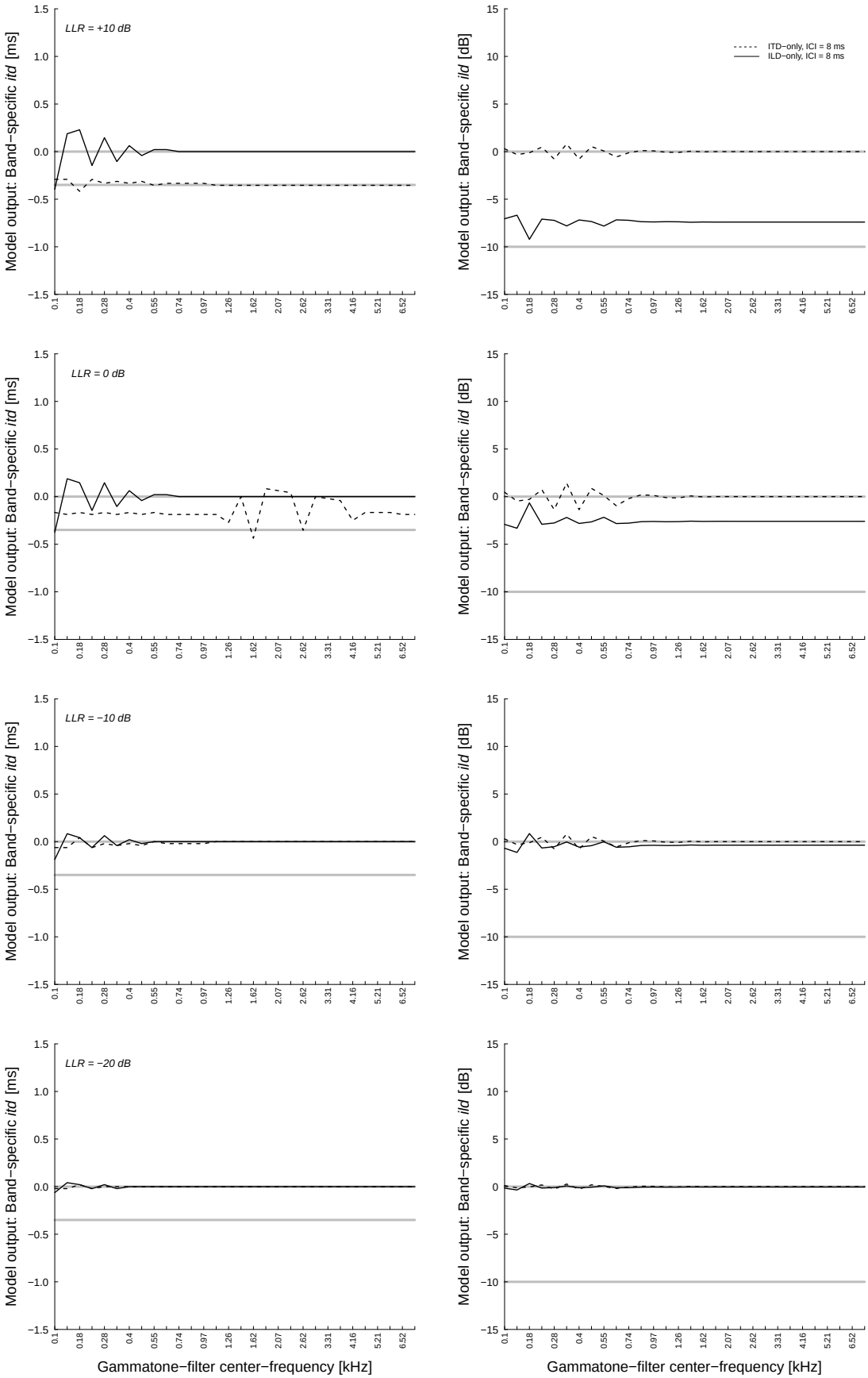

LLR = +10 dB
LLR = 0 dB
LLR = −10 dB
LLR = −20 dB
ITD−only, ICI = 0.25 ms
ILD−only, ICI = 0.25 ms
Model output: Band−specific itd [ms]
Model output: Band−specific ild [dB]
Gammatone−filter center−frequency [kHz]
Gammatone−filter center−frequency [kHz]


LLR = +10 dB
LLR = 0 dB
LLR = −10 dB
LLR = −20 dB
ITD−only, ICI = 0.5 ms
ILD−only, ICI = 0.5 ms
Model output: Band−specific itd [ms]
Model output: Band−specific ild [dB]
Gammatone−filter center−frequency [kHz]
Gammatone−filter center−frequency [kHz]


LLR = +10 dB
LLR = 0 dB
LLR = −10 dB
LLR = −20 dB
ITD−only, ICI = 1 ms
ILD−only, ICI = 1 ms
Model output: Band−specific itd [ms]
Model output: Band−specific ild [dB]
Gammatone−filter center−frequency [kHz]
Gammatone−filter center−frequency [kHz]
0.1
0.18
0.28
0.4
0.55
0.74
0.97
1.26
1.62
2.07
2.62
3.31
4.16
5.21
6.52


LLR = +10 dB
LLR = 0 dB
LLR = −10 dB
LLR = −20 dB
ITD−only, ICI = 2 ms
ILD−only, ICI = 2 ms
Model output: Band−specific itd [ms]
Model output: Band−specific ild [dB]
Gammatone−filter center−frequency [kHz]
Gammatone−filter center−frequency [kHz]


LLR = +10 dB
LLR = 0 dB
LLR = −10 dB
LLR = −20 dB
ITD−only, ICI = 4 ms
ILD−only, ICI = 4 ms
Model output: Band−specific itd [ms]
Model output: Band−specific ild [dB]
Gammatone−filter center−frequency [kHz]
Gammatone−filter center−frequency [kHz]


LLR = +10 dB
LLR = 0 dB
LLR = −10 dB
LLR = −20 dB
ITD−only, ICI = 8 ms
ILD−only, ICI = 8 ms
Model output: Band−specific itd [ms]
Model output: Band−specific ild [dB]
Gammatone−filter center−frequency [kHz]
Gammatone−filter center−frequency [kHz]
1.5
1.0
0.5
0.0
−0.5
−1.0
−1.5
15
10
5
0
−5
−10
−15
0.1
0.18
0.28
0.4
0.55
0.74
0.97
1.26
1.62
2.07
2.62
3.31
4.16
5.21
6.52