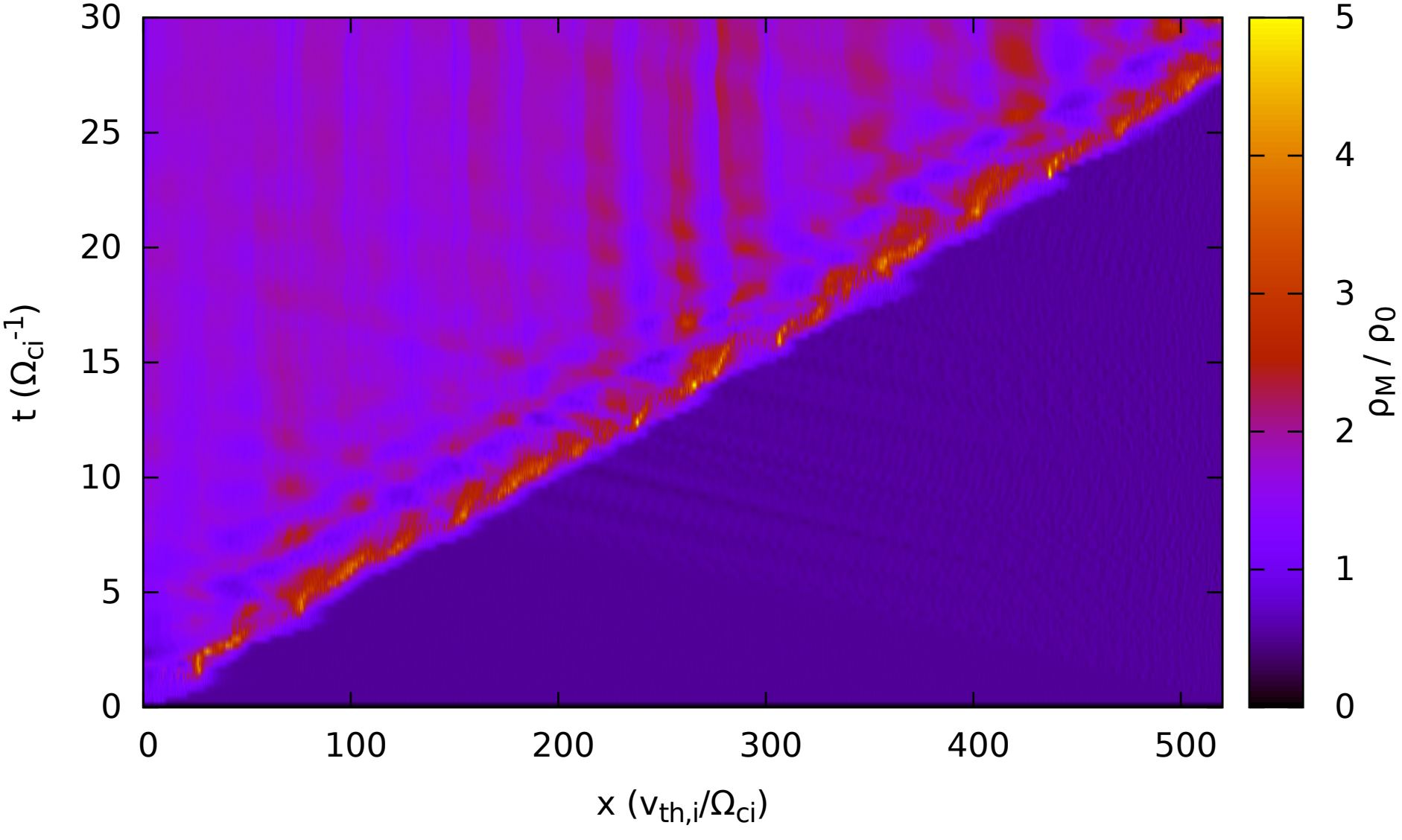
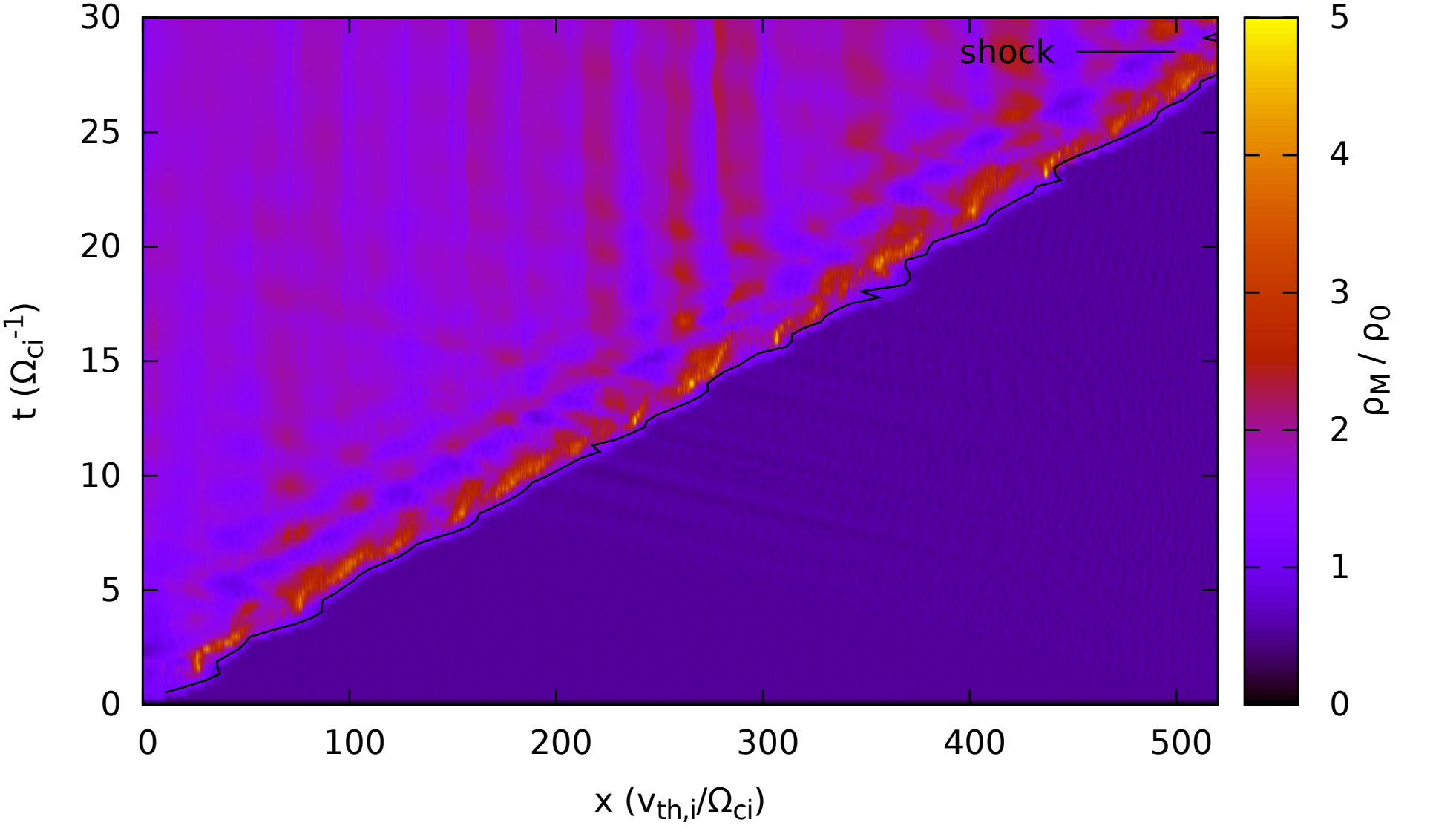
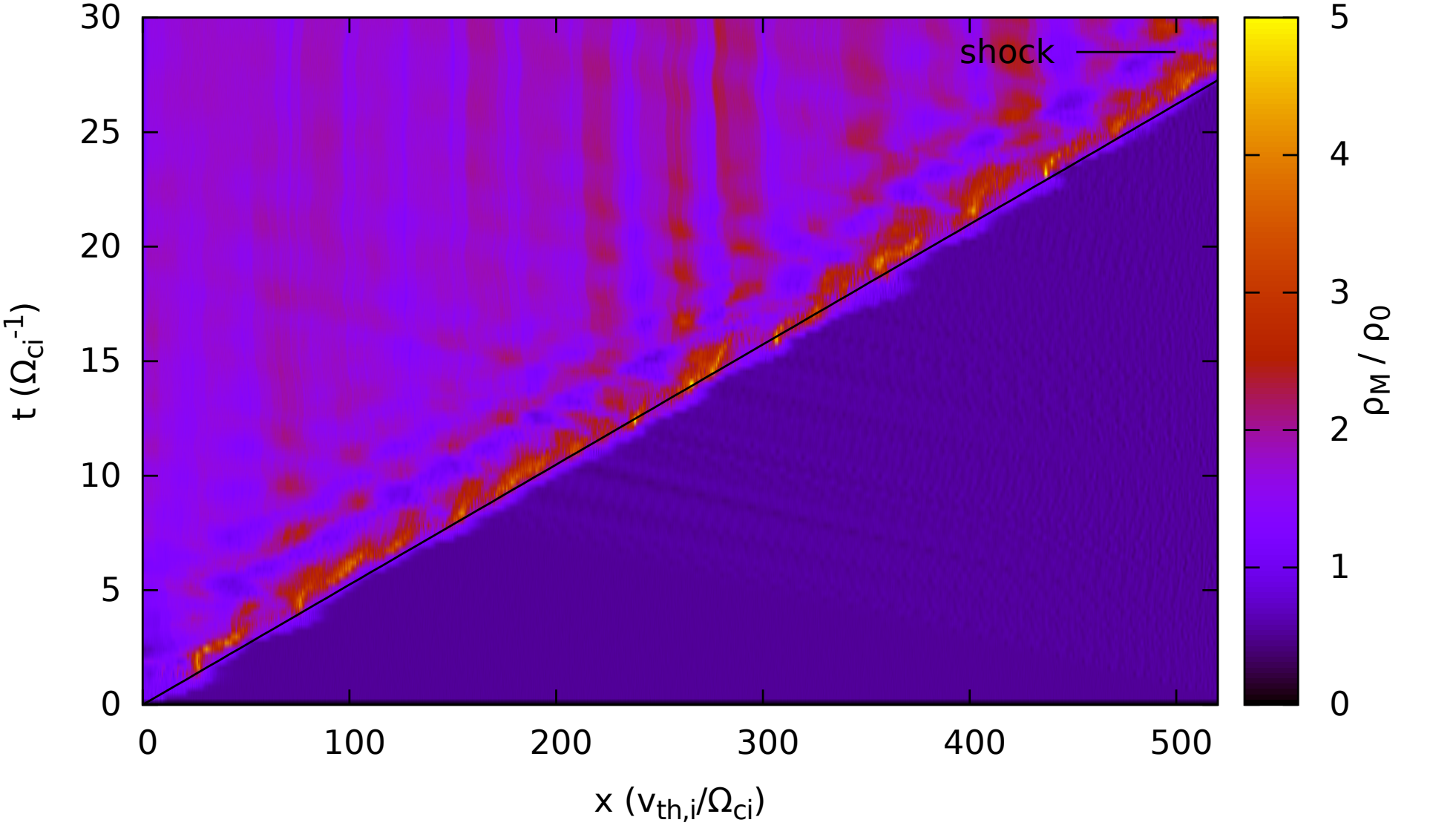
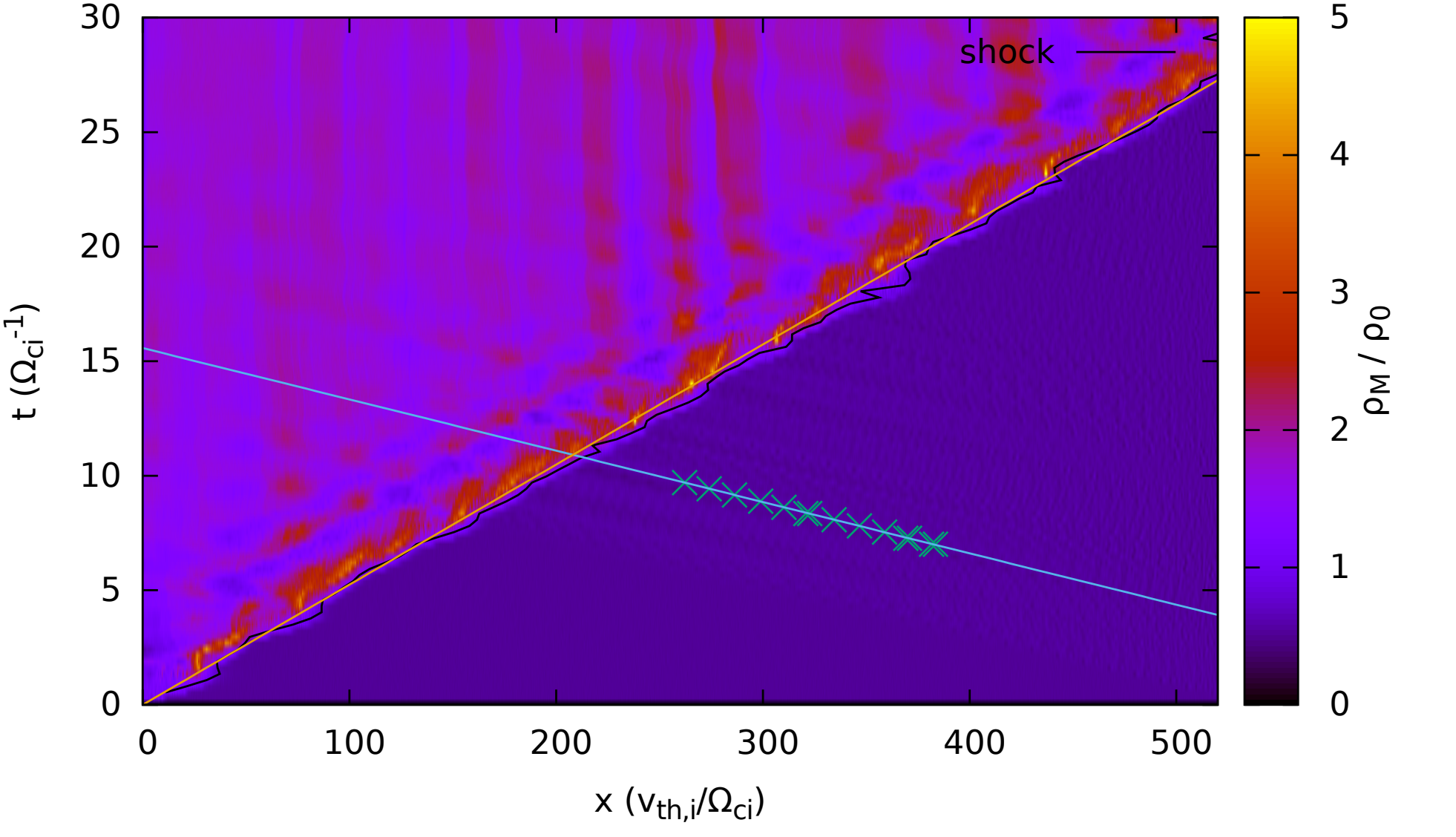
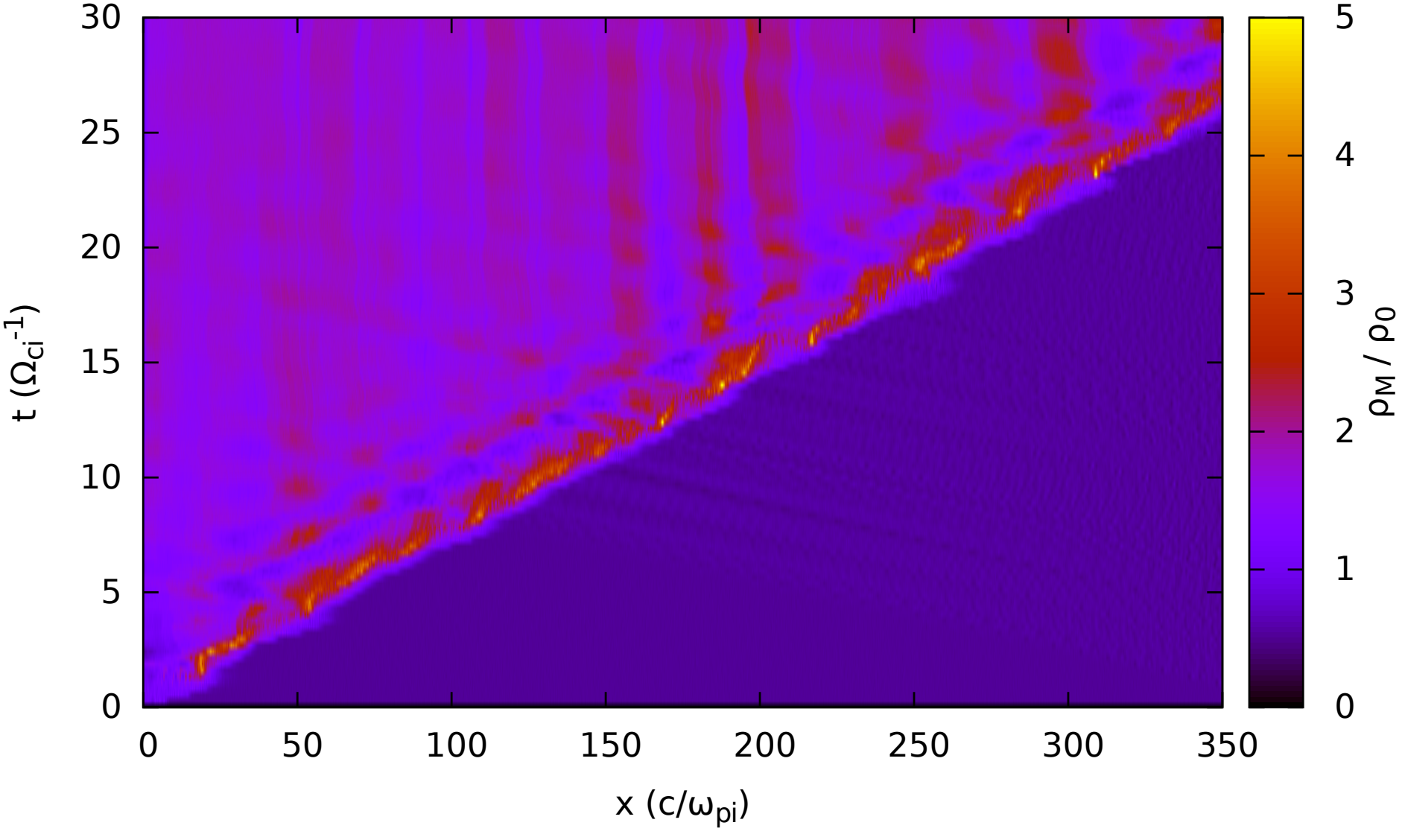
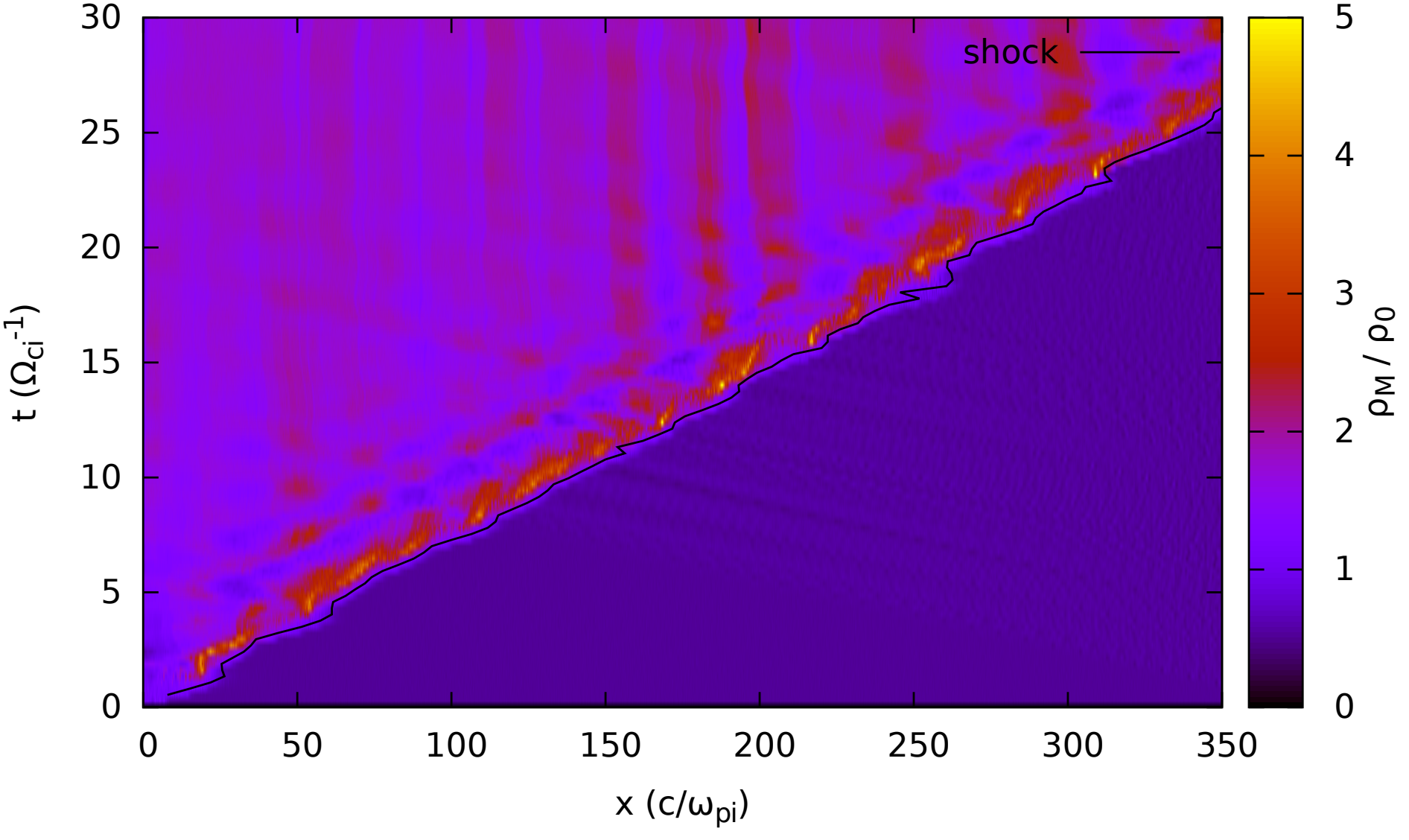

30
25
20
15
10
5
0
t (Ω_{ci}^{-1})
0
100
200
300
400
500
x ($v_{th,i}/\Omega_{ci}$)
5
4
3
2
1
0
ρ_M / ρ_0

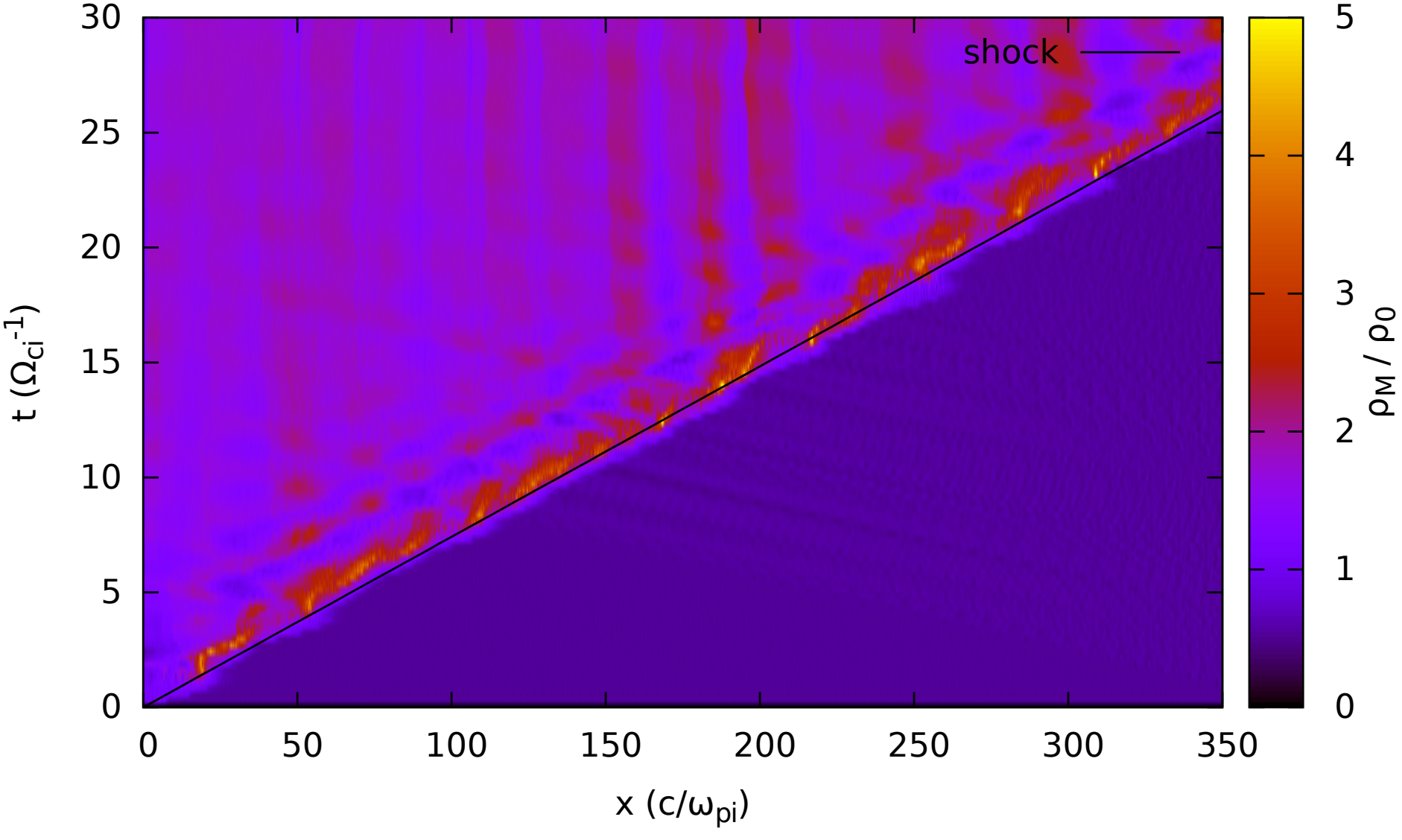

shock
t (Ω_{ci}^{-1})
x ($v_{th,i}/\Omega_{ci}$)
ρ_M / ρ_0
0
5
10
15
20
25
30
0
100
200
300
400
500
0
1
2
3
4
5

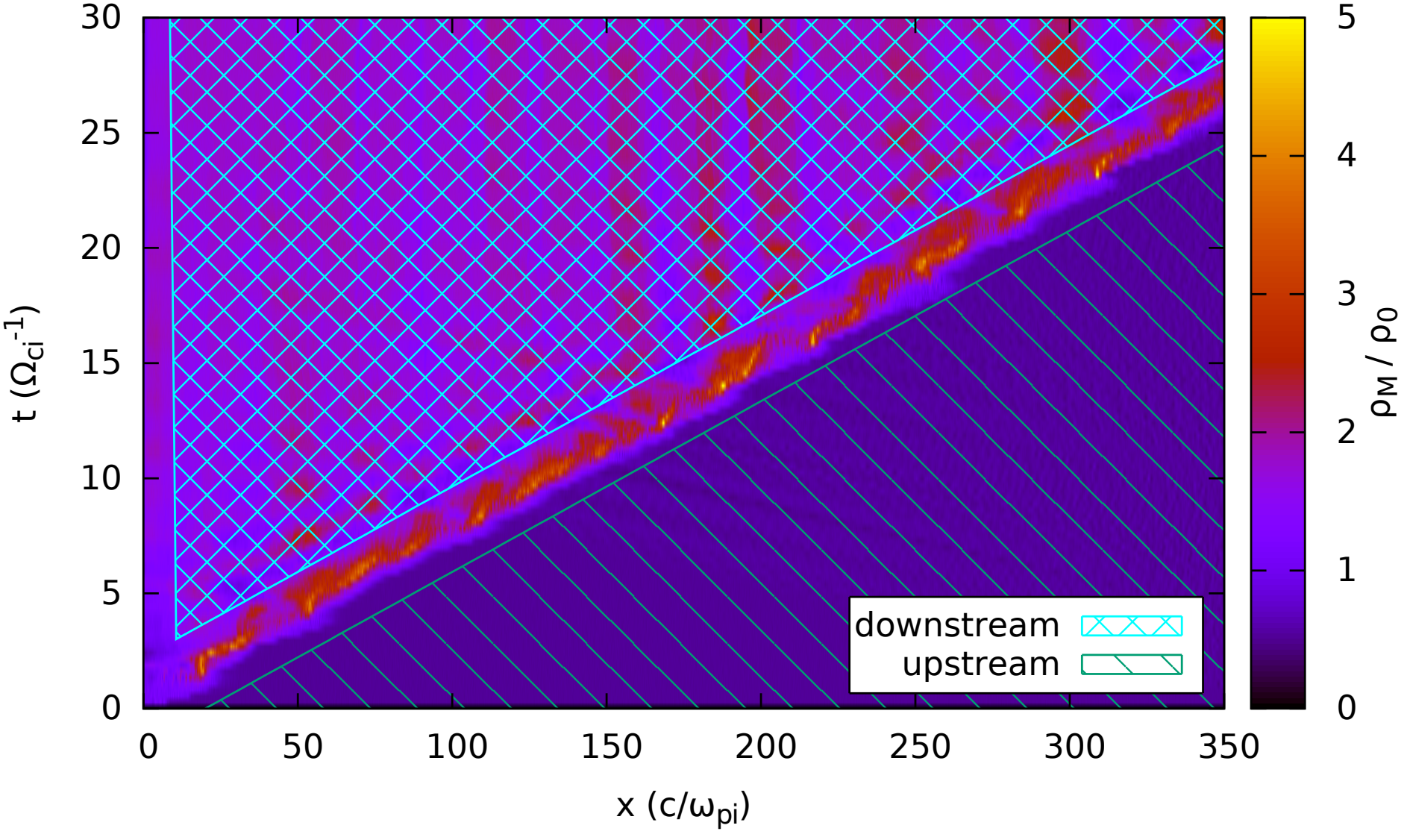

shock
t (Ω_{ci}^{-1})
x ($v_{th,i}/\Omega_{ci}$)
ρ_M / ρ_0
0
5
10
15
20
25
30
0
100
200
300
400
500
0
1
2
3
4
5


shock
t (Ω_{ci}^{-1})
x ($v_{th,i}/\Omega_{ci}$)
ρ_M / ρ_0
0
5
10
15
20
25
30
0
100
200
300
400
500
0
1
2
3
4
5


30
25
20
15
10
5
0
t (Ω_{ci}^{-1})
0
50
100
150
200
250
300
350
x (c/ω_{pi})
5
4
3
2
1
0
ρ_M / ρ_0


shock
t (Ω_{ci}^{-1})
x (c/ω_{pi})
ρ_M / ρ_0
0
5
10
15
20
25
30
0
50
100
150
200
250
300
350
0
1
2
3
4
5


shock
t (Ω_{ci}^{-1})
x (c/ω_{pi})
ρ_M / ρ_0
0
5
10
15
20
25
30
0
50
100
150
200
250
300
350
0
1
2
3
4
5


30
25
20
15
10
5
0
t (Ω_{ci}^{-1})
0
50
100
150
200
250
300
350
x (c/ω_{pi})
5
4
3
2
1
0
ρ_M / ρ_0
downstream
upstream