

Supplementary information

Identifying attacks in the Russia–Ukraine conflict using seismic array data

In the format provided by the authors and unedited

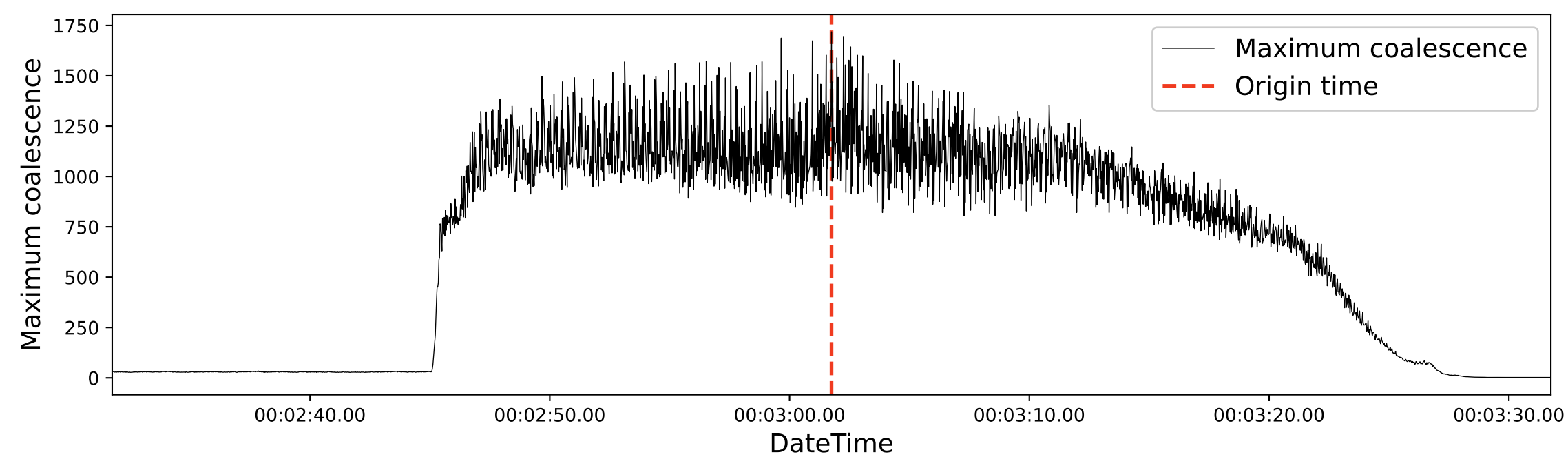
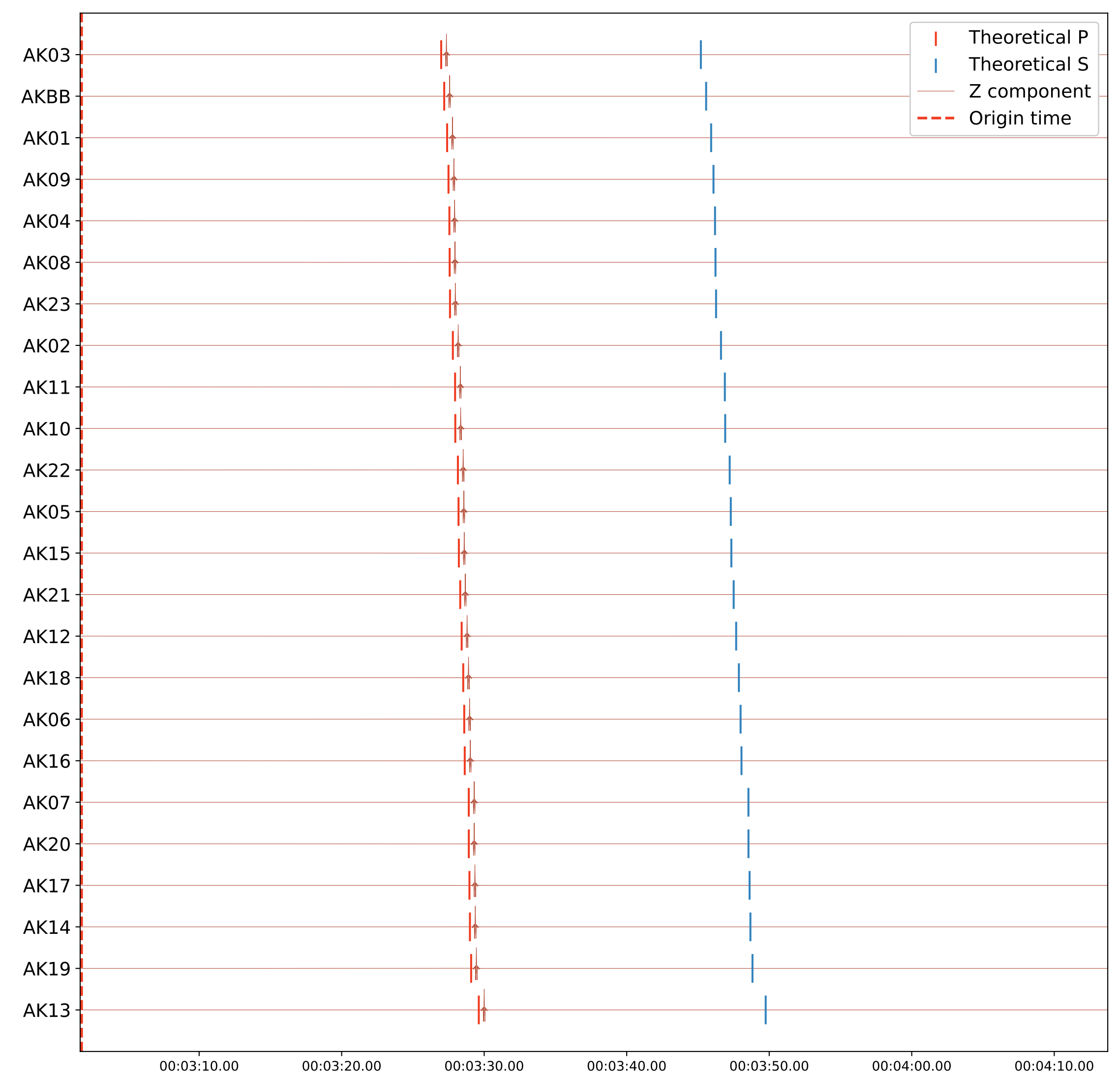
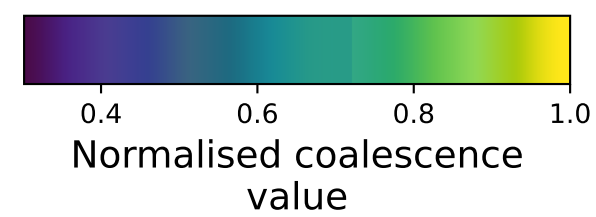
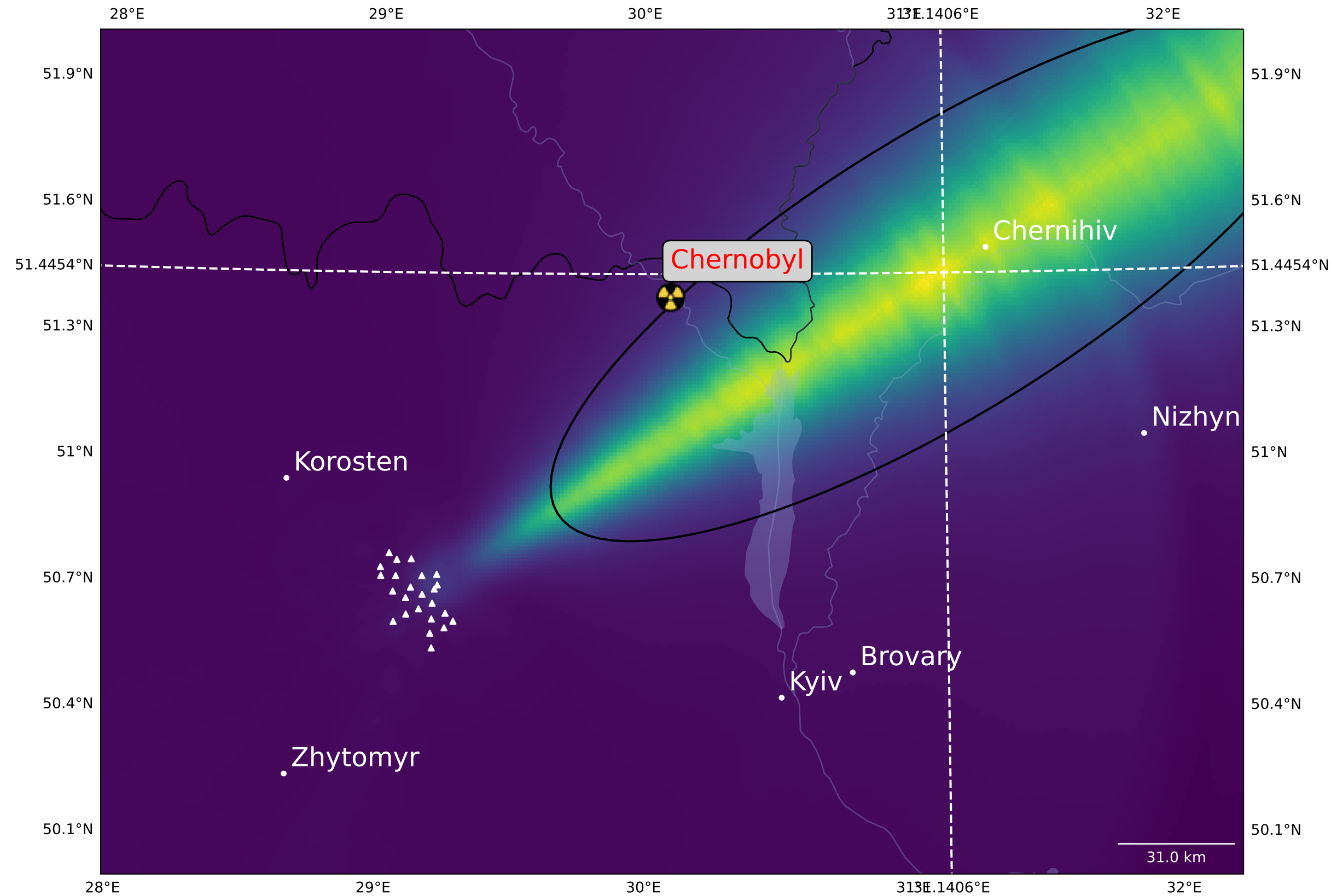
Chernihiv point spread function

Origin time: 2022-01-01 00:03:01.750

Hypocentre: 51.4454°N
31.1406°E

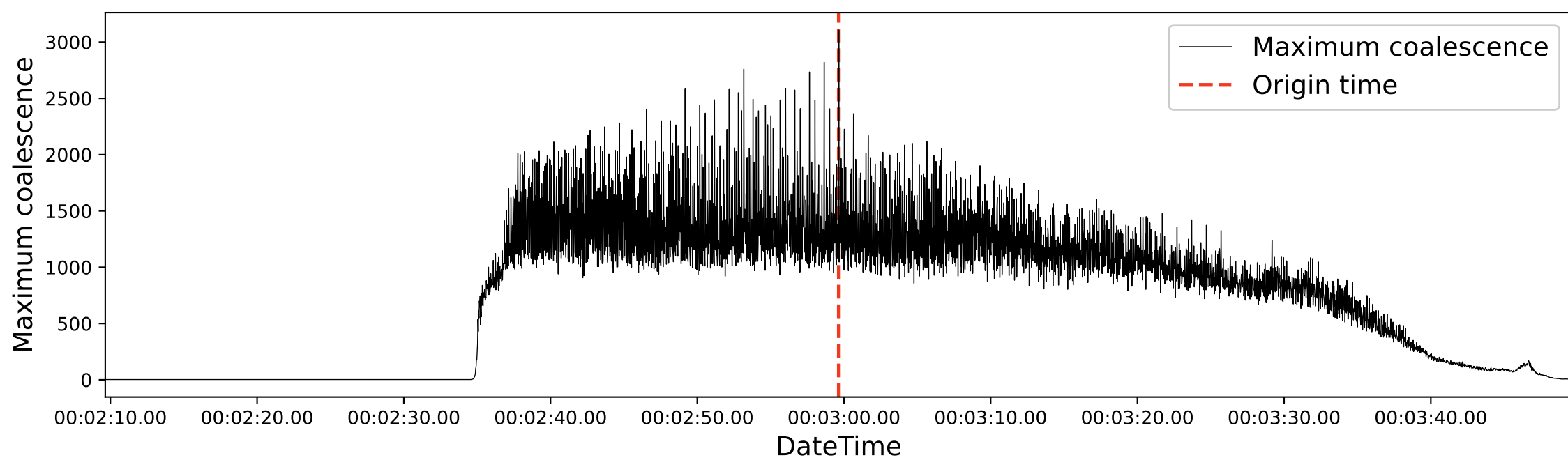
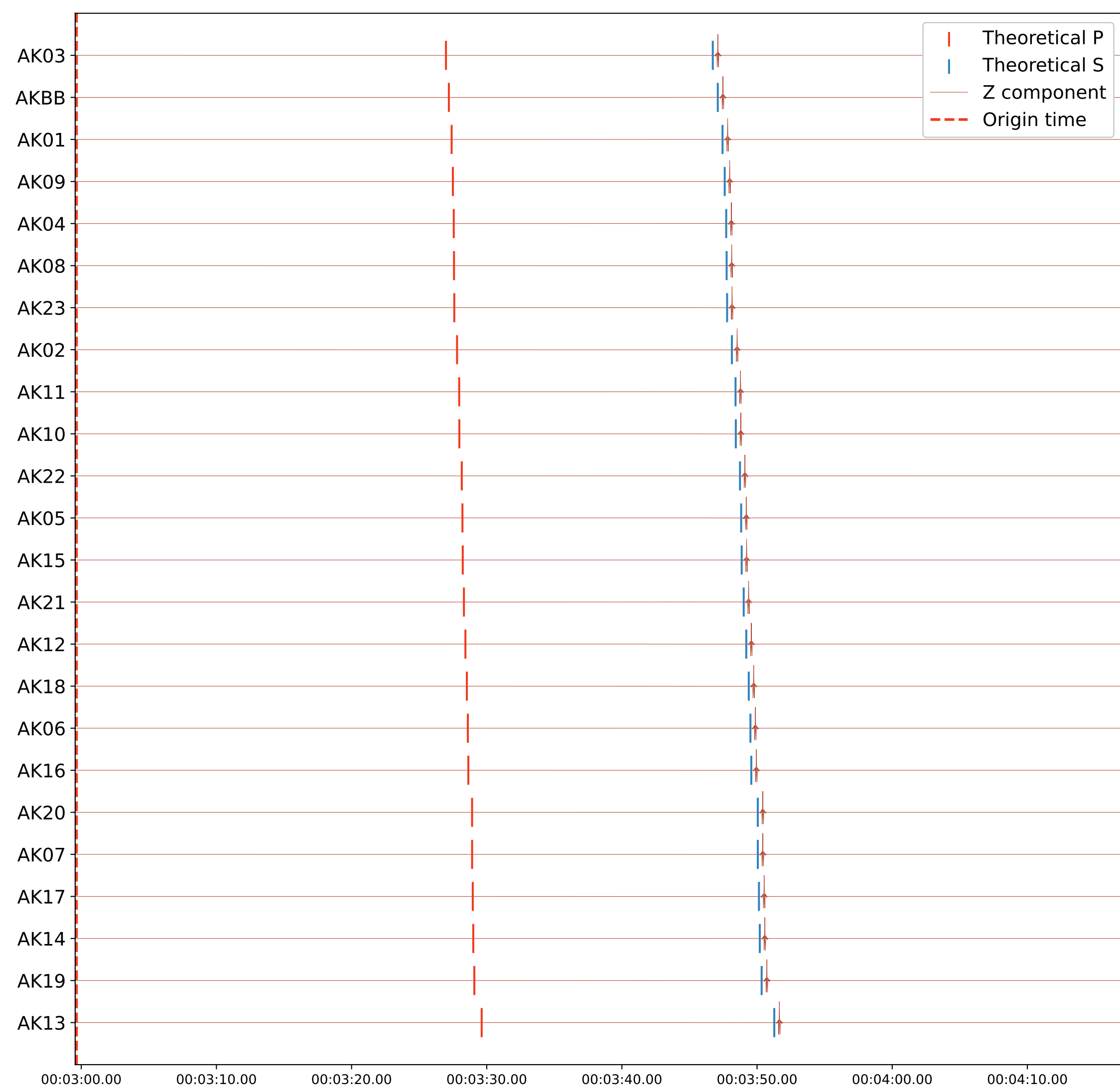
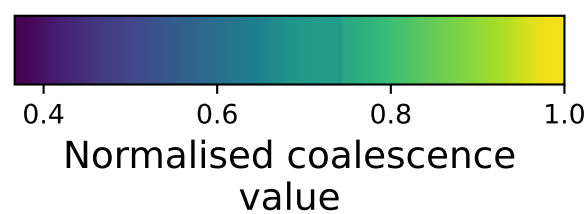
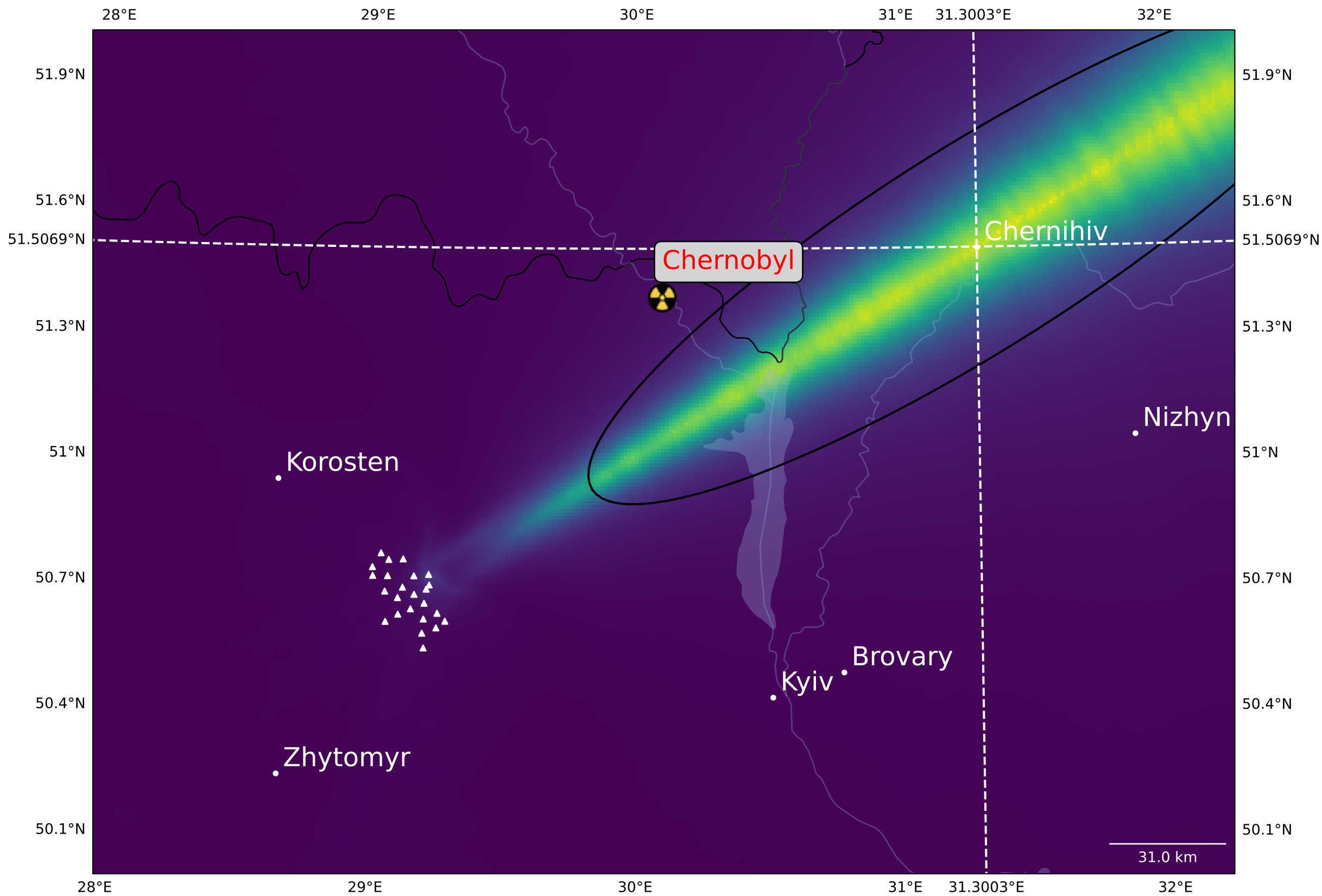
Location error: 13.04 km

Uncertainty ellipse: 120.00 km (semi-major axis)
37.00 km (semi-minor axis)



Chernihiv point spread function

Origin time: 2022-01-01 00:02:59.650
 Hypocentre: 51.5069°N
 31.3003°E
 Location error: 0.00 km
 Uncertainty ellipse: 120.00 km (semi-major axis)
 27.00 km (semi-minor axis)



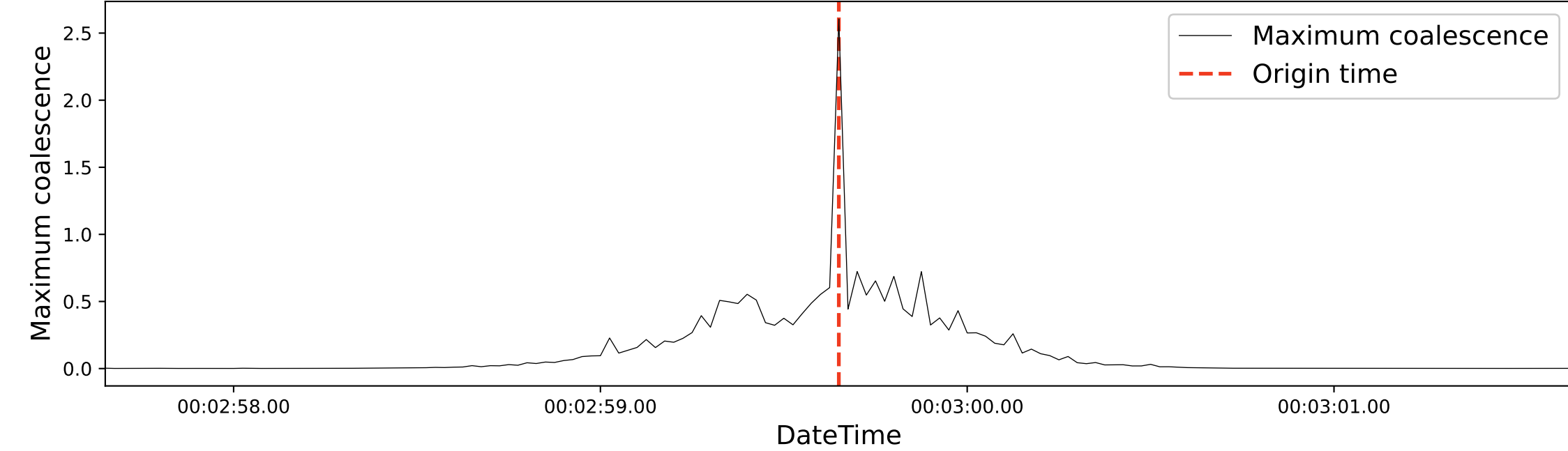
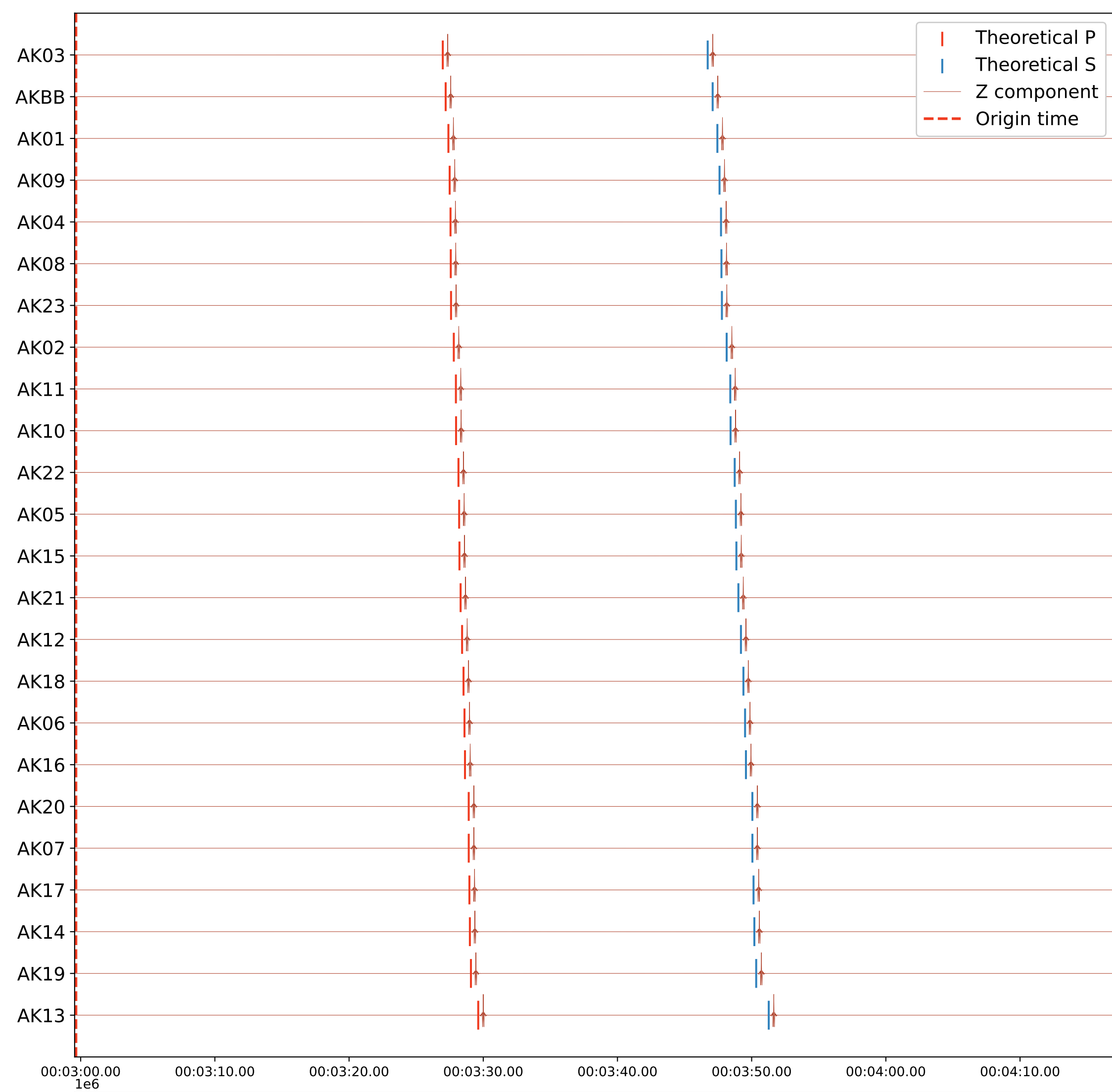
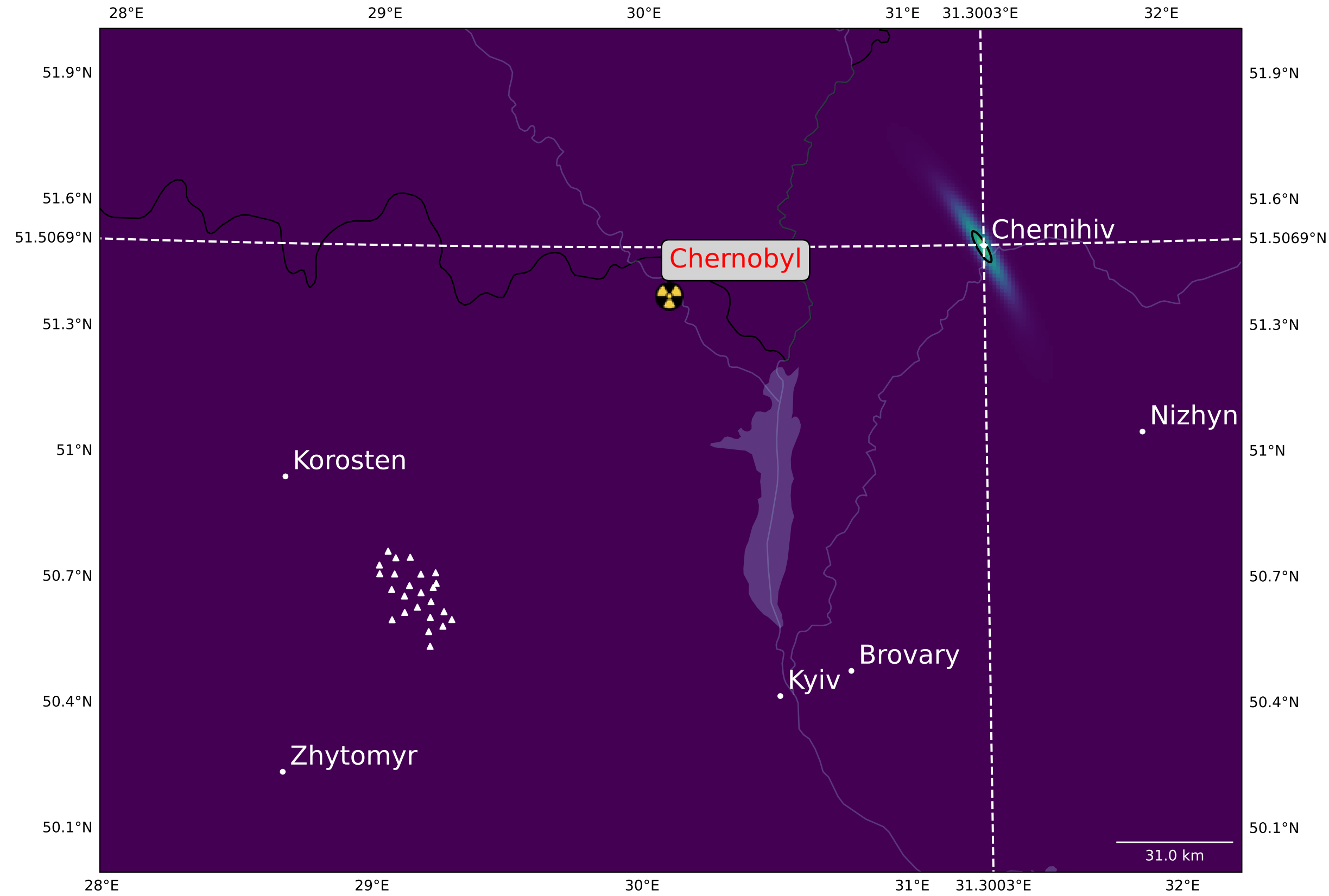
Chernihiv point spread function

Origin time: 2022-01-01 00:02:59.650

Hypocentre: 51.5069°N
31.3003°E

Location error: 0.00 km

Uncertainty ellipse: 4.70 km (semi-major axis)
1.20 km (semi-minor axis)



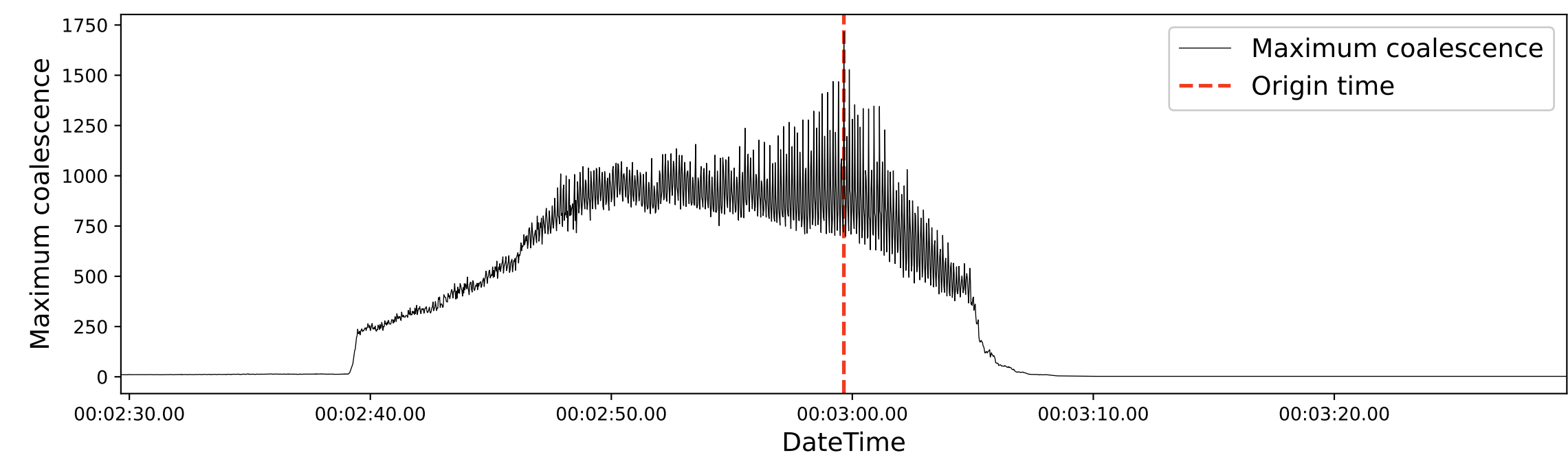
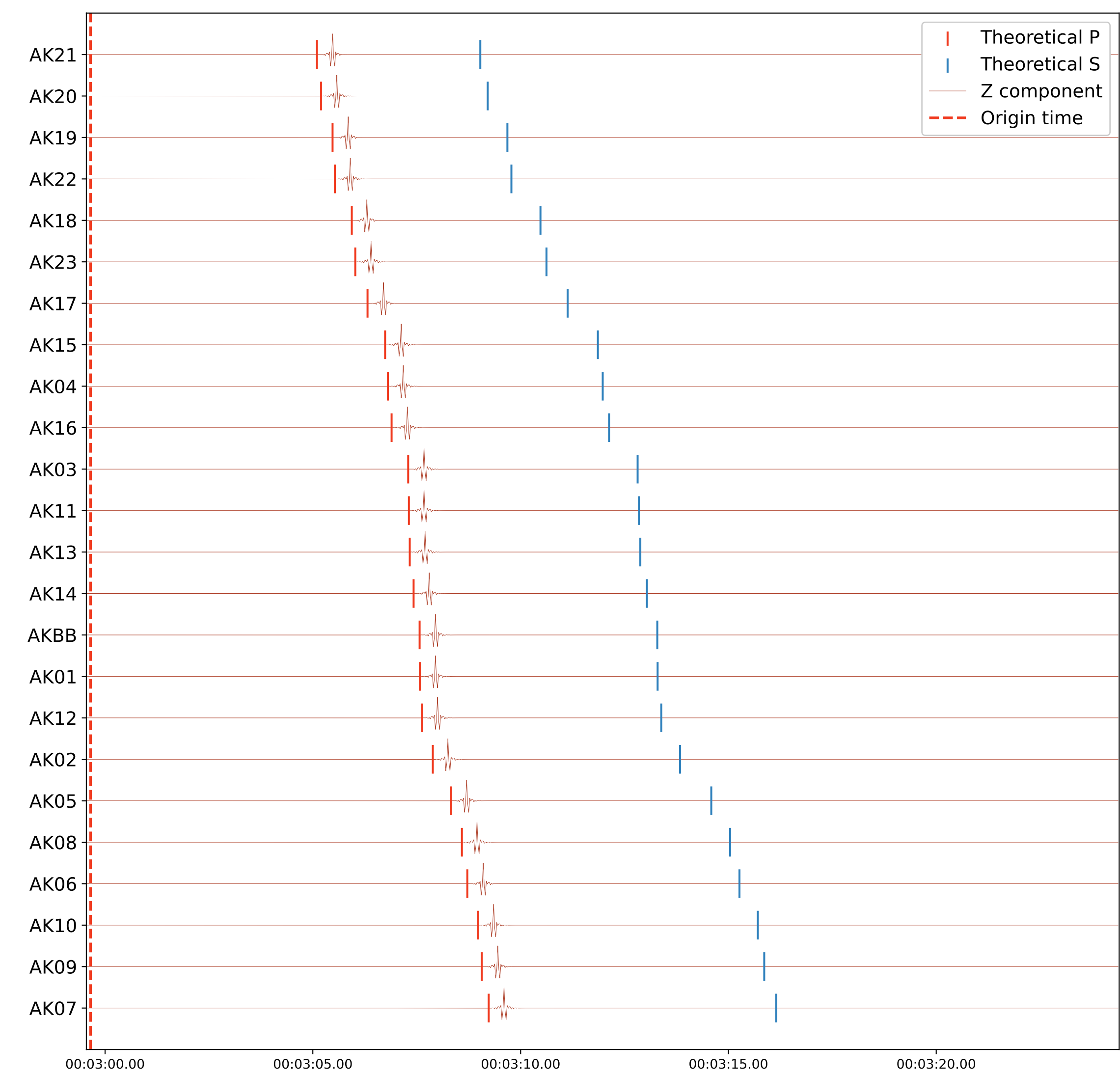
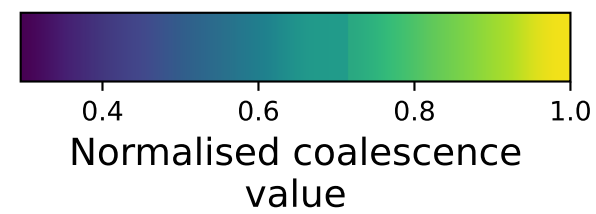
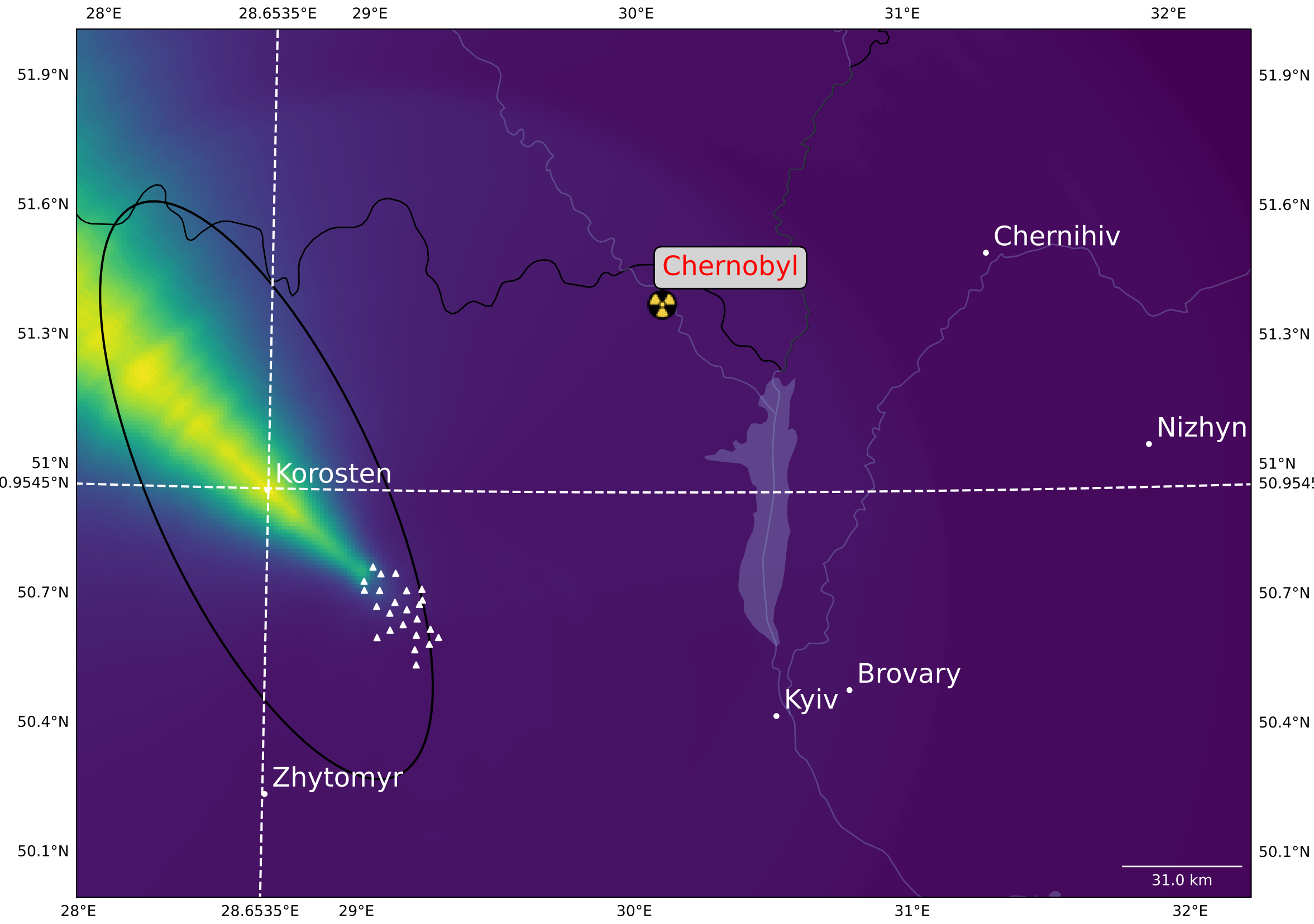
Korosten point spread function

Origin time: 2022-01-01 00:02:59.650

Hypocentre: 50.9545°N
28.6535°E

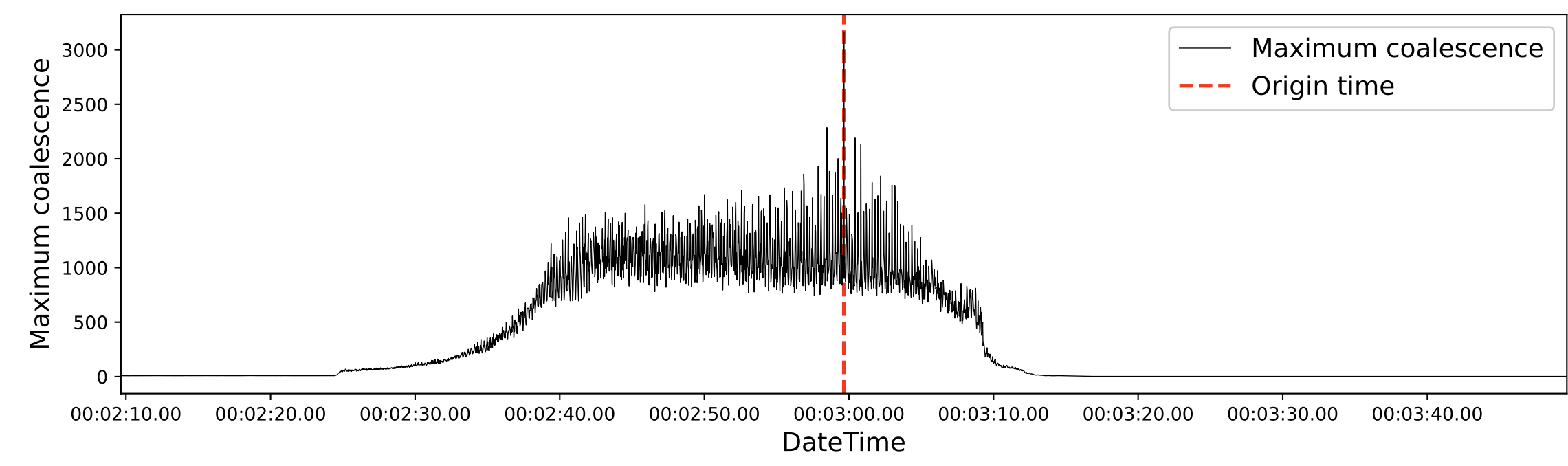
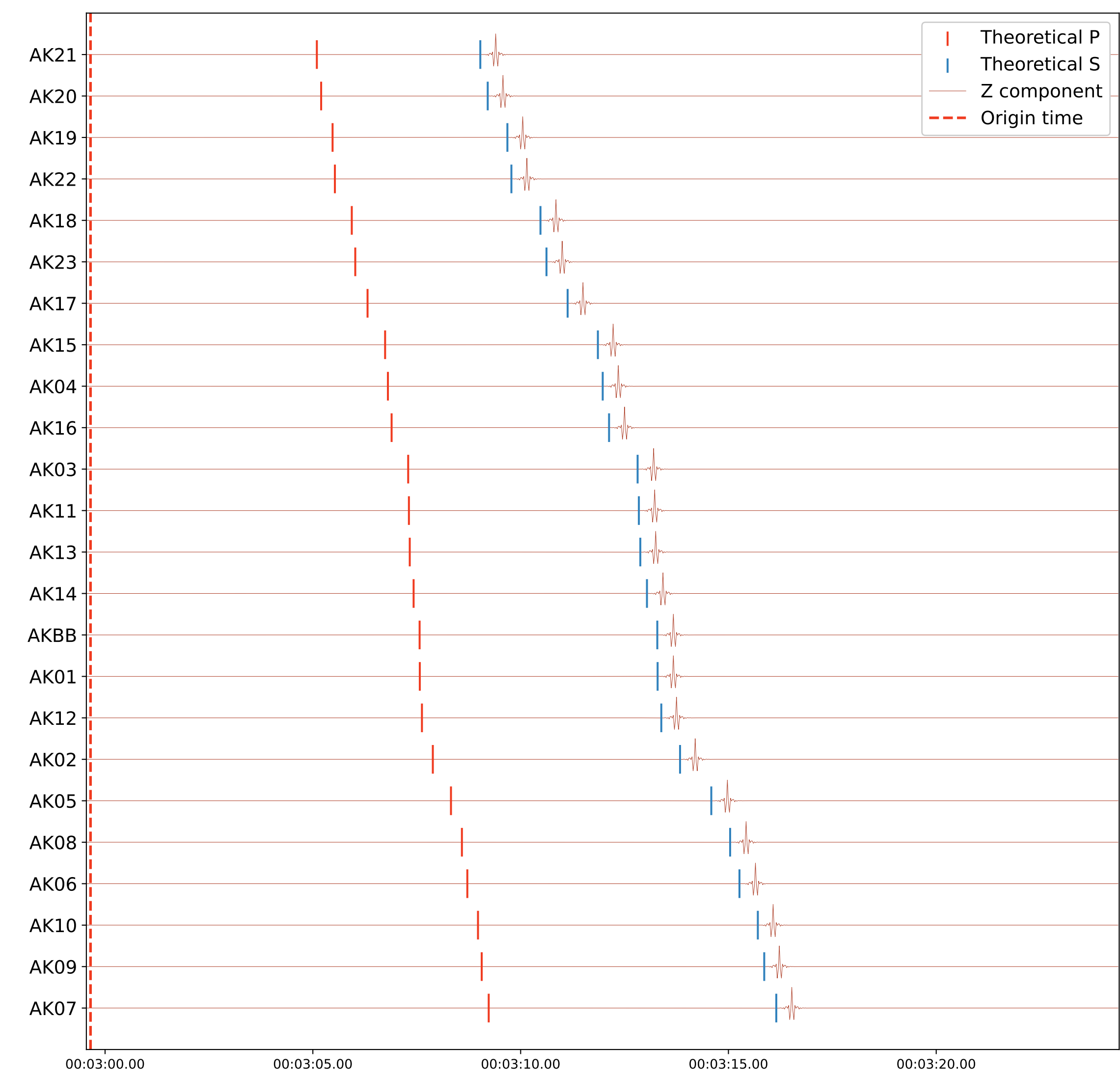
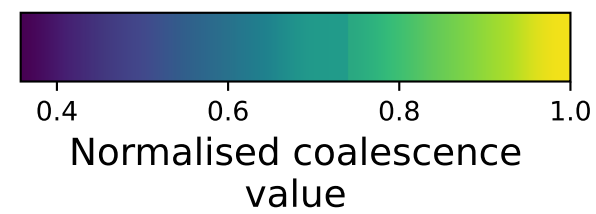
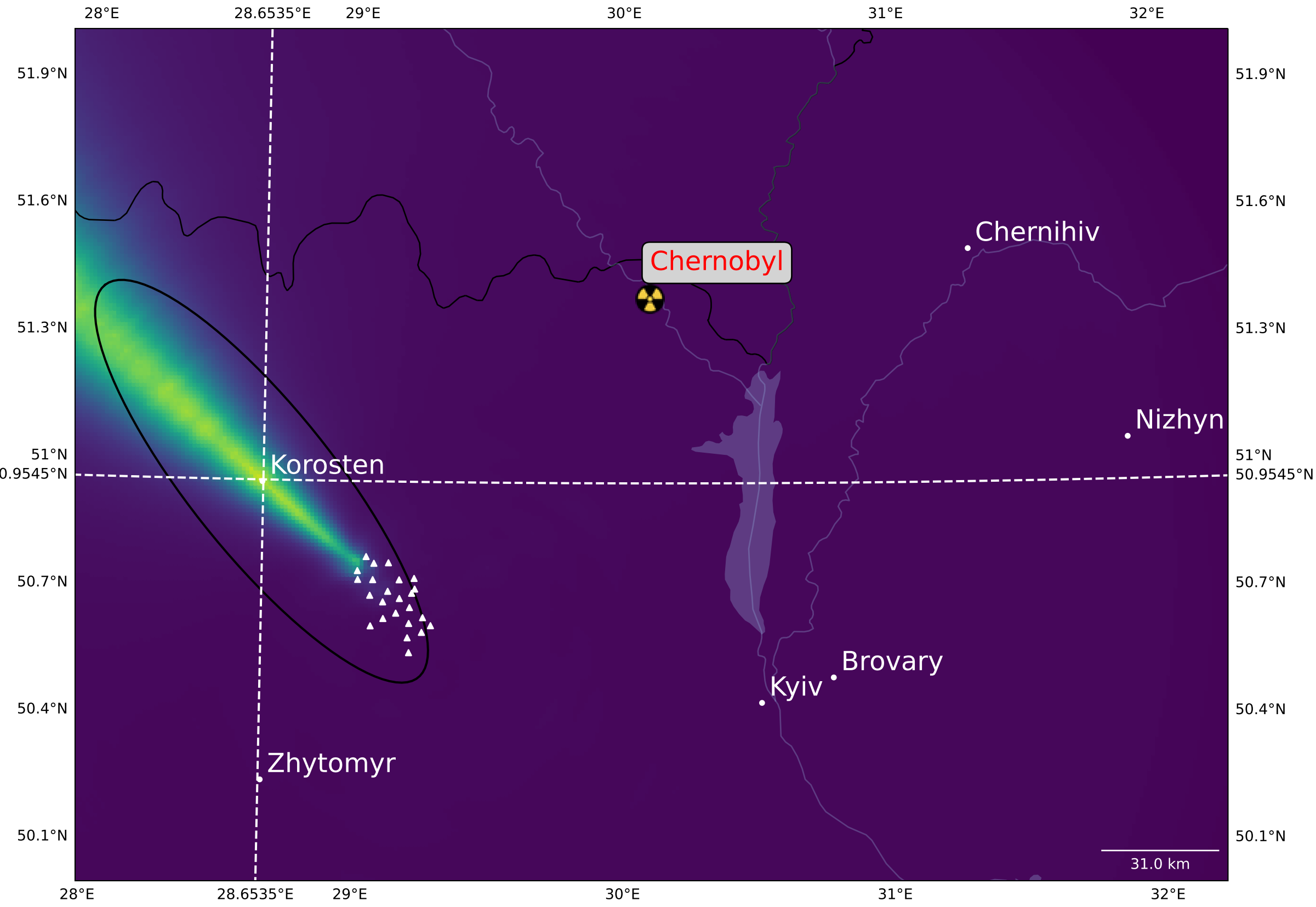
Location error: 0.01 km

Uncertainty ellipse: 81.00 km (semi-major axis)
29.00 km (semi-minor axis)



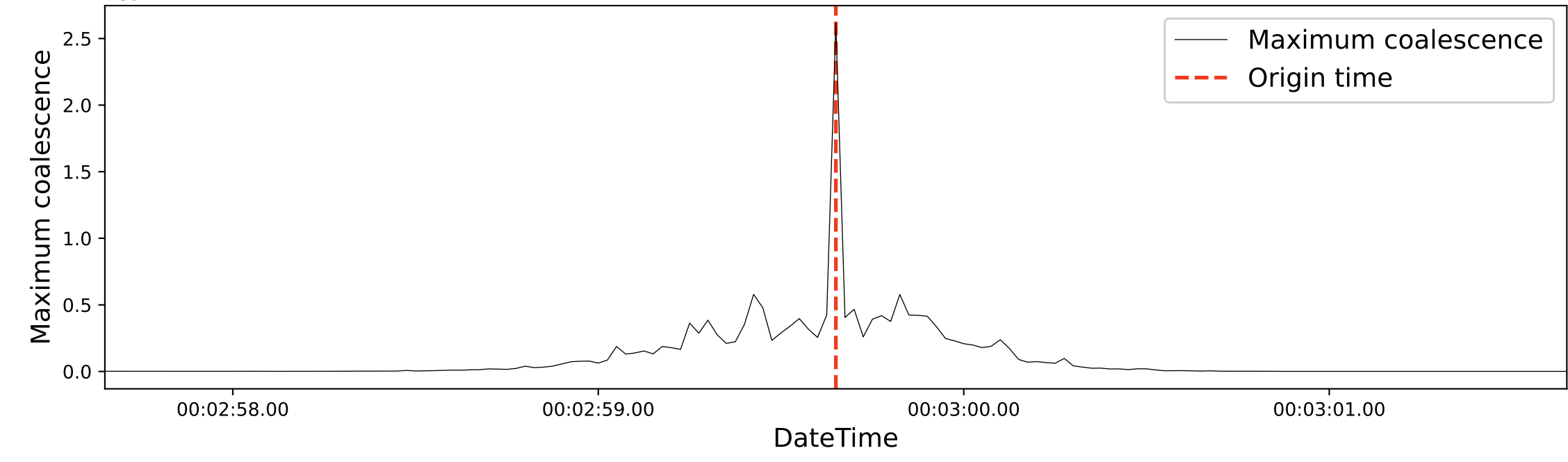
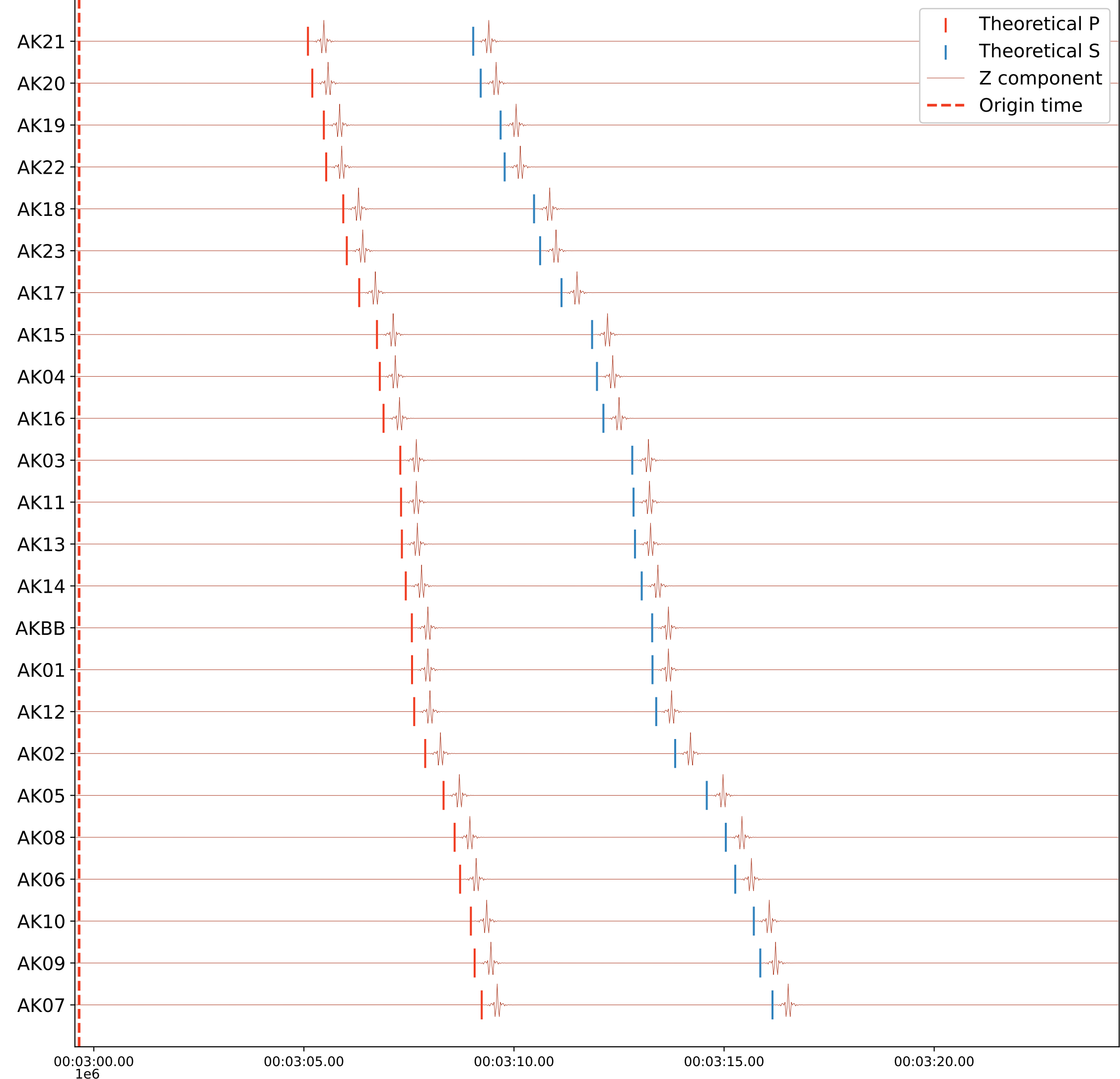
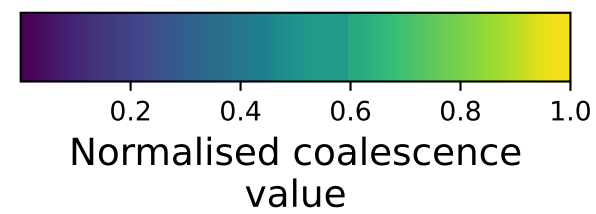
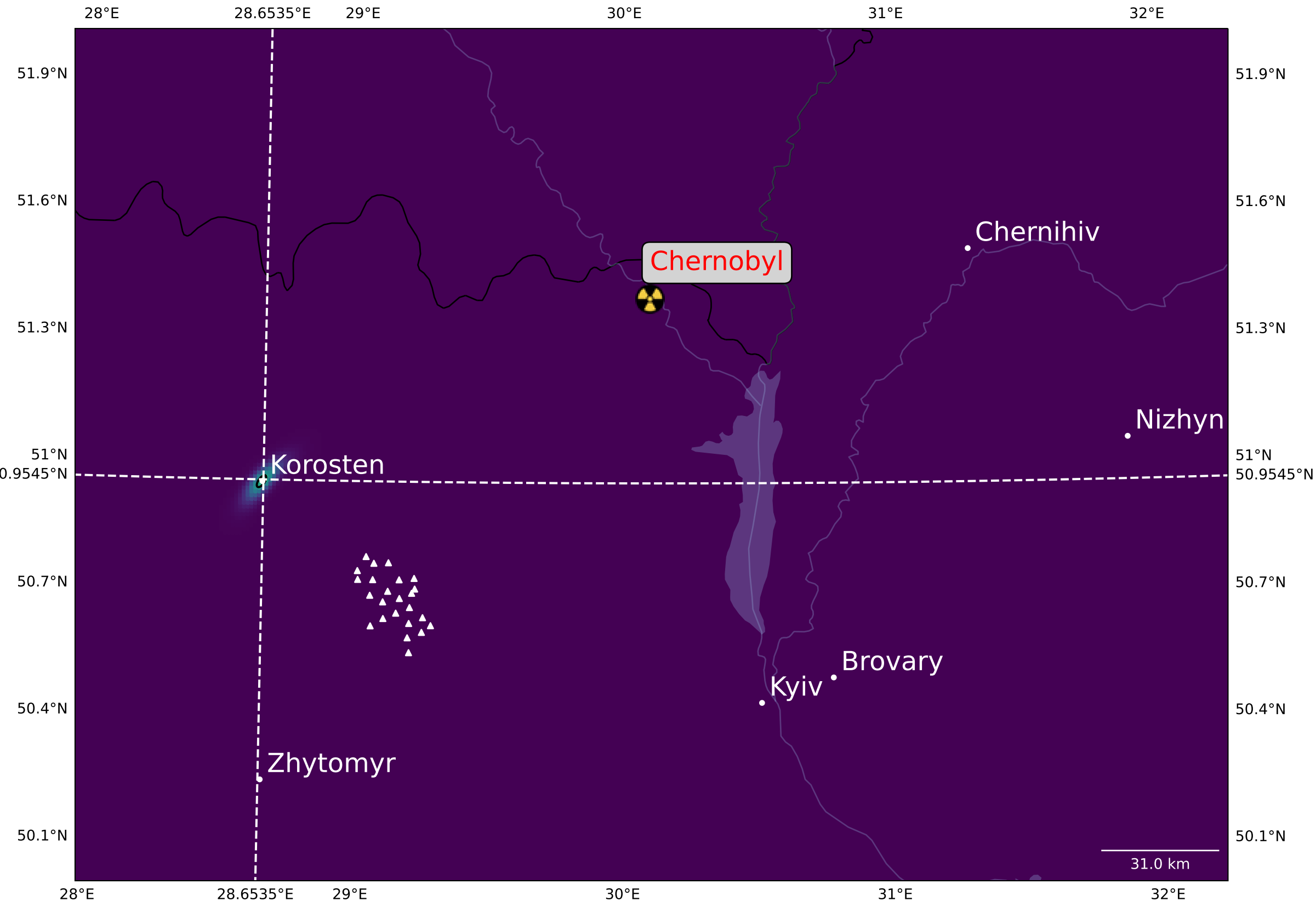
Korosten point spread function

Origin time: 2022-01-01 00:02:59.650
 Hypocentre: 50.9545°N
 28.6535°E
 Location error: 0.01 km
 Uncertainty ellipse: 66.00 km (semi-major axis)
 19.00 km (semi-minor axis)



Korosten point spread function

Origin time: 2022-01-01 00:02:59.650
 Hypocentre: 50.9545°N
 28.6535°E
 Location error: 0.01 km
 Uncertainty ellipse: 1.80 km (semi-major axis)
 0.82 km (semi-minor axis)



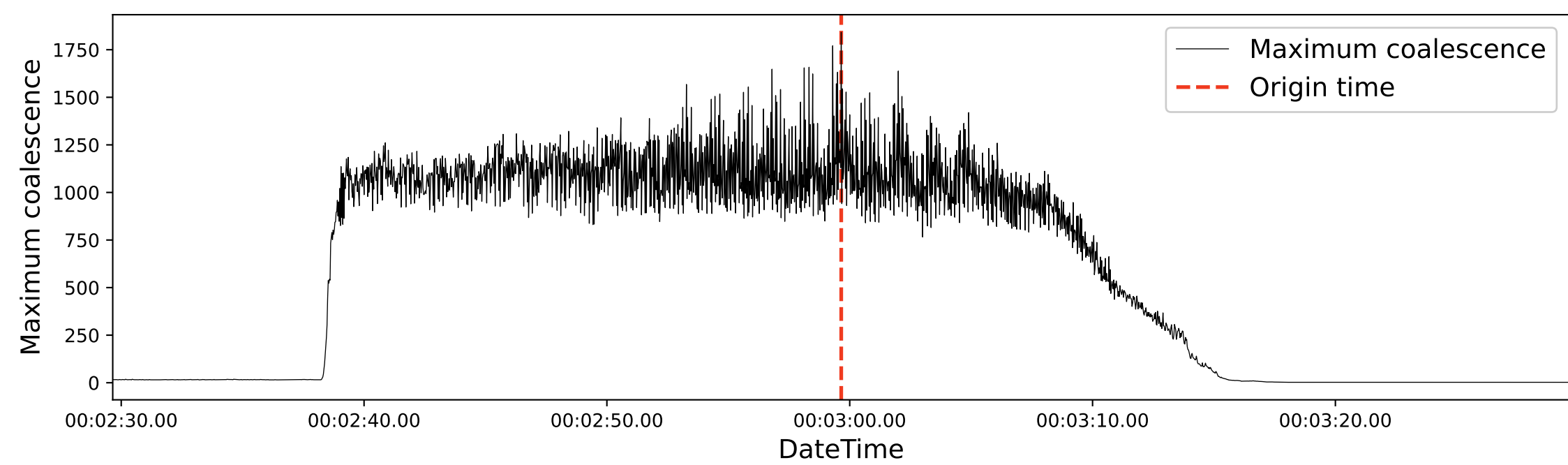
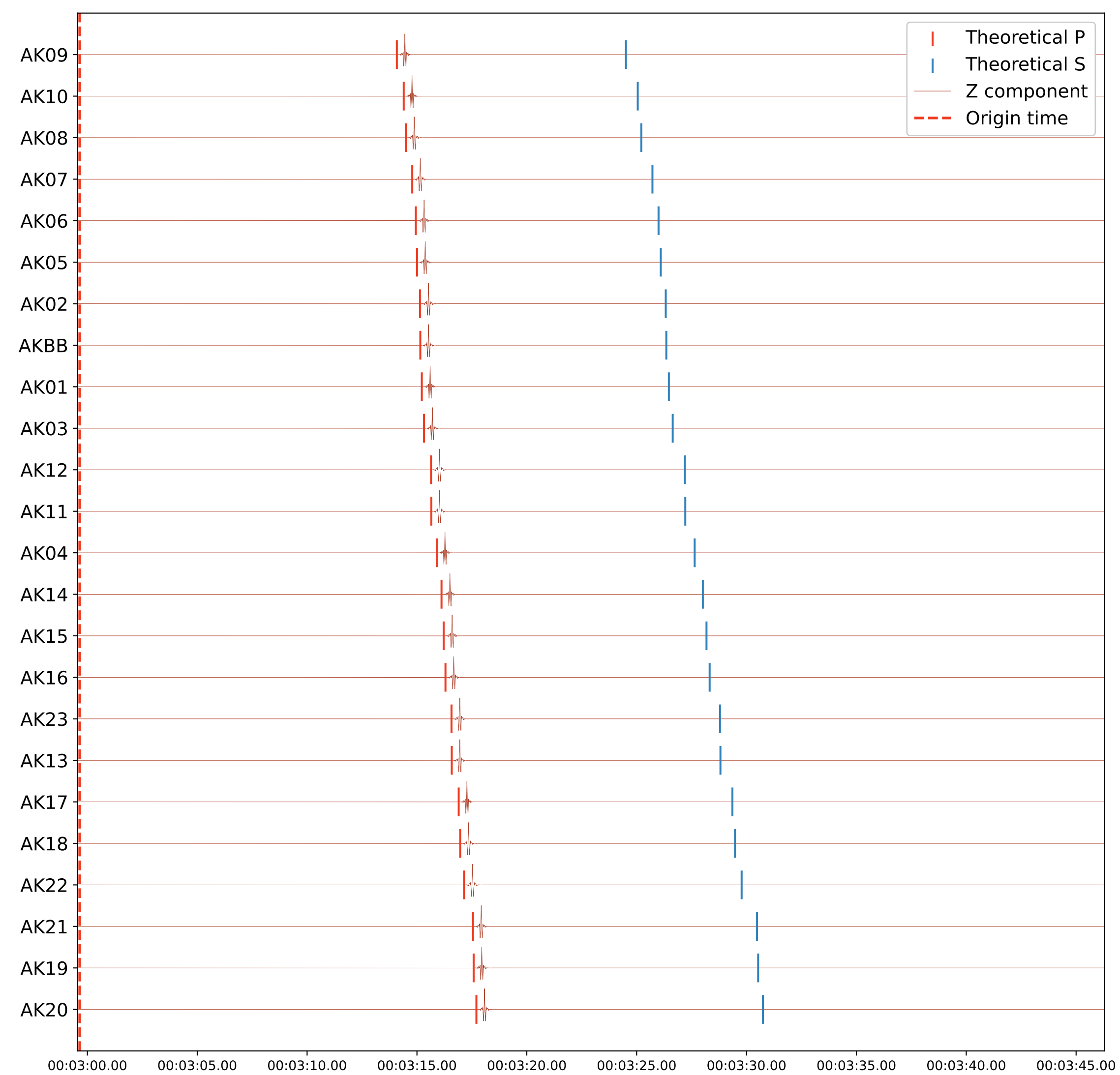
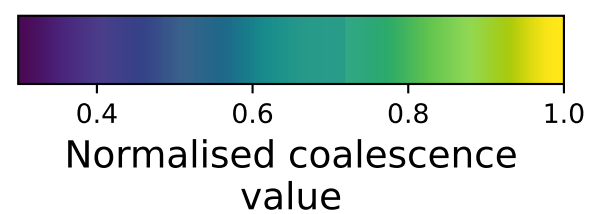
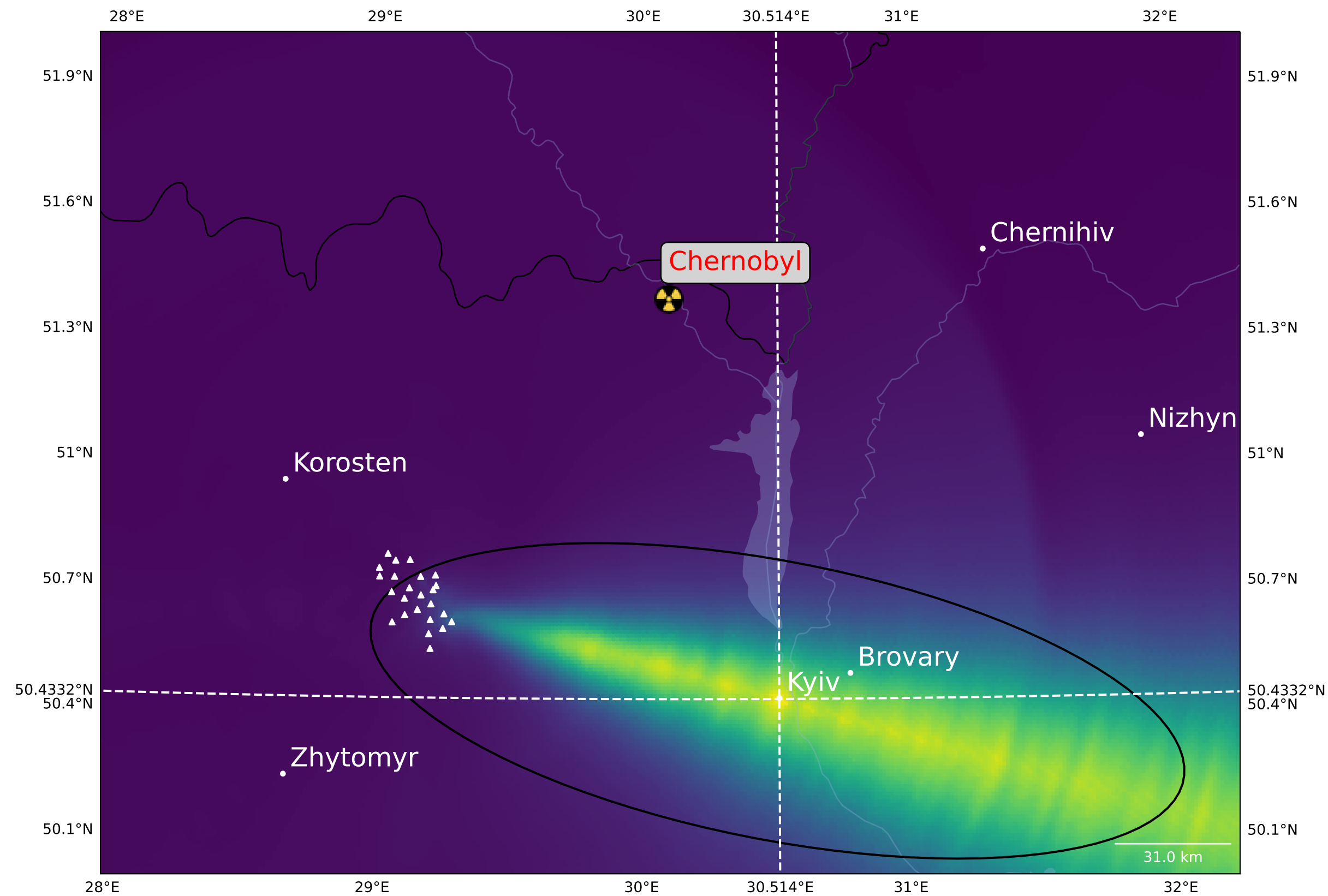
Kyiv point spread function

Origin time: 2022-01-01 00:02:59.650

Hypocentre: 50.4332°N
30.514°E

Location error: 0.00 km

Uncertainty ellipse: 110.00 km (semi-major axis)
37.00 km (semi-minor axis)



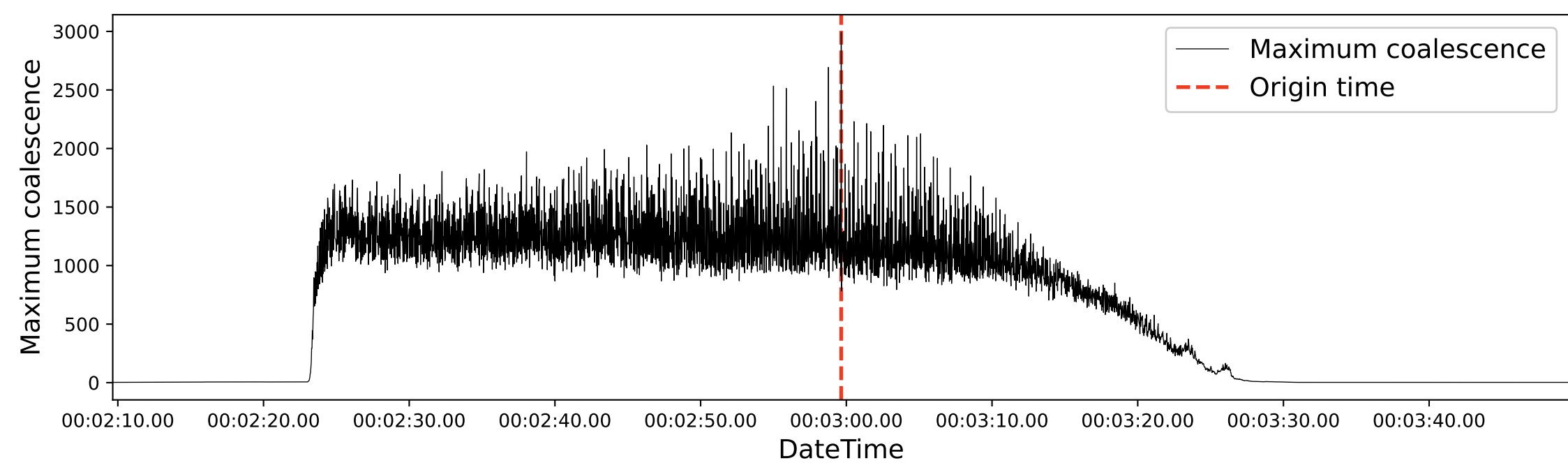
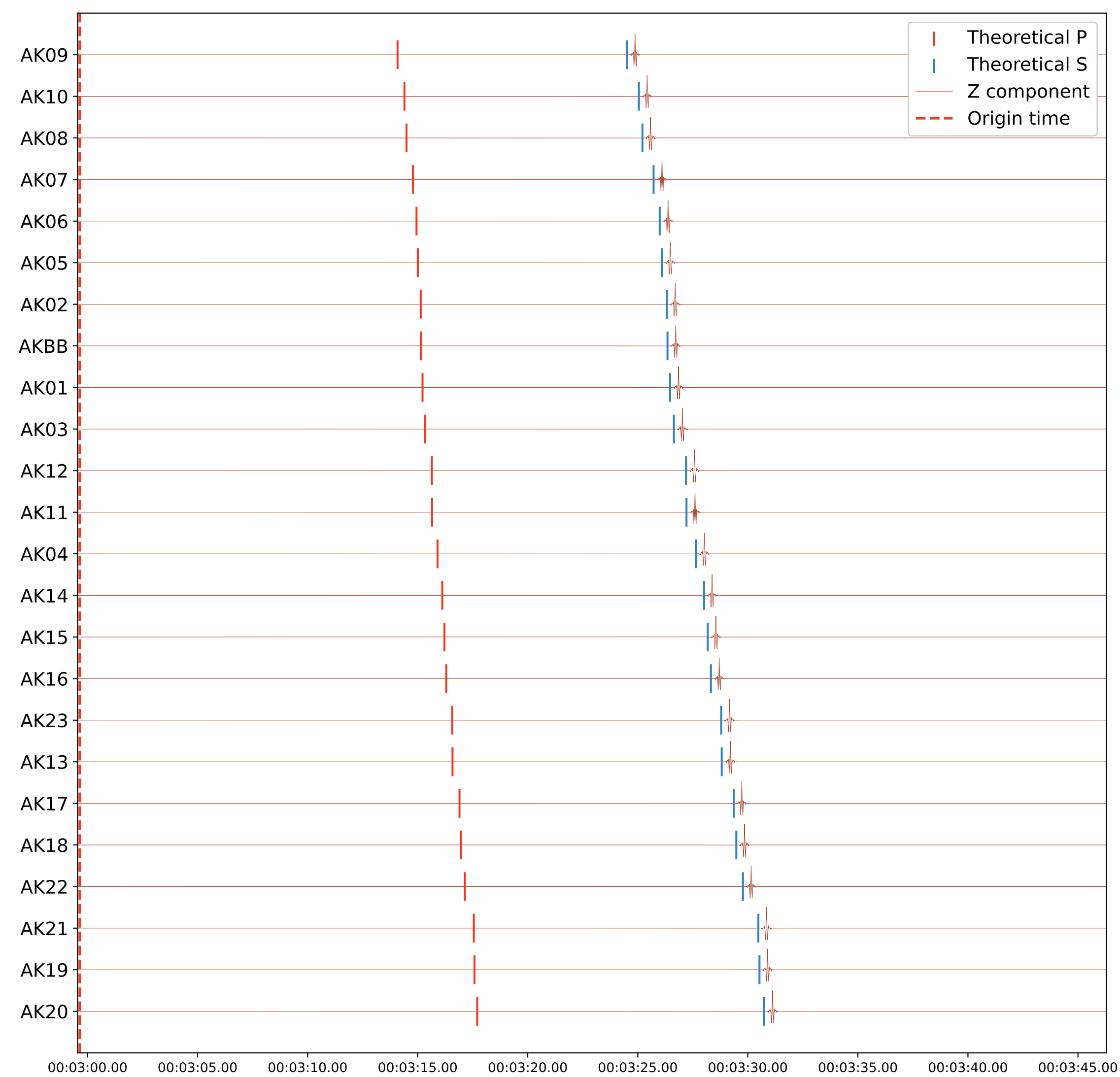
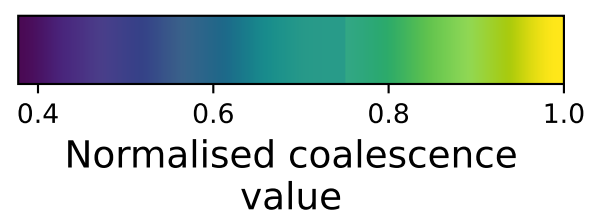
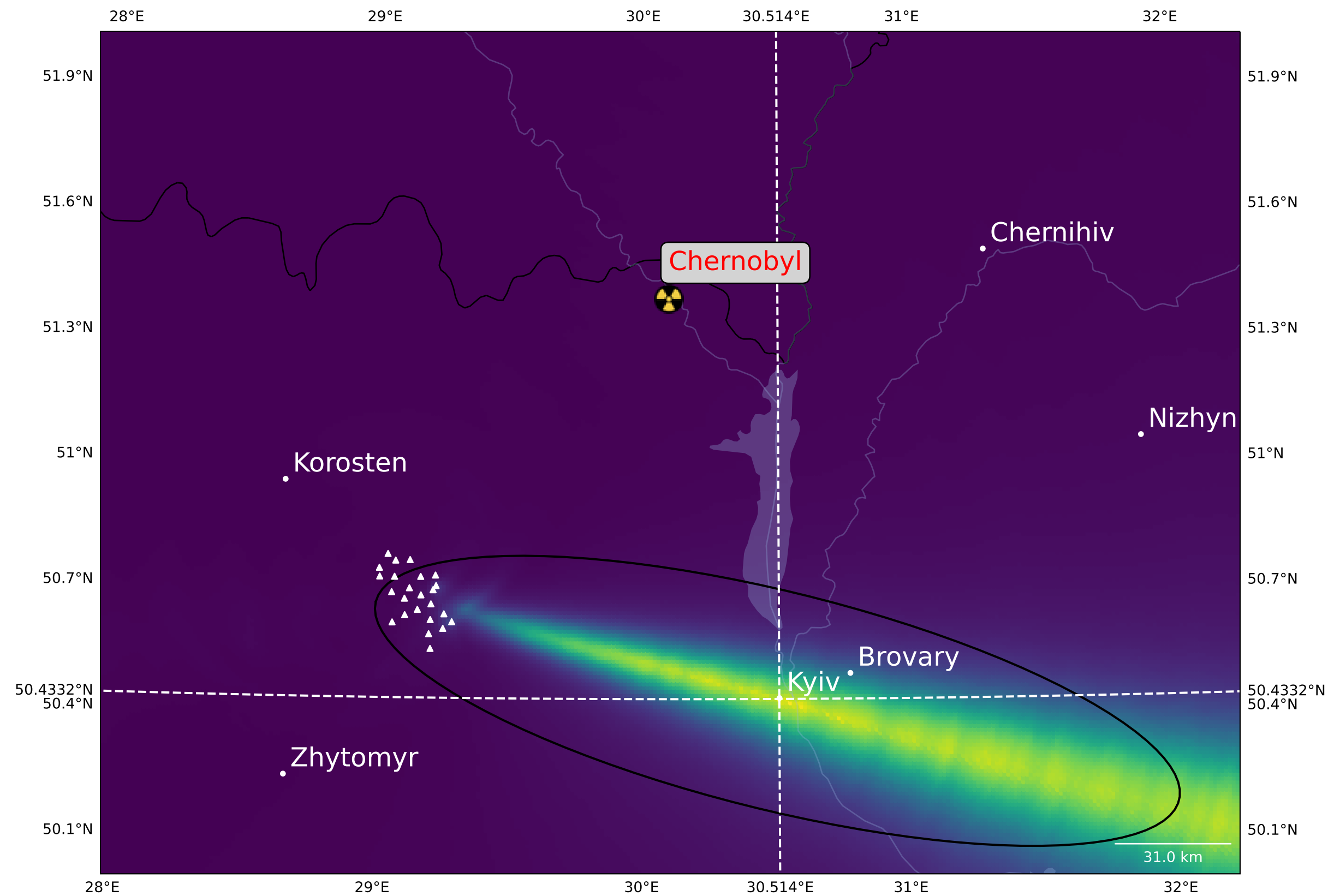
Kyiv point spread function

Origin time: 2022-01-01 00:02:59.650

Hypocentre: 50.4332°N
30.514°E

Location error: 0.00 km

Uncertainty ellipse: 110.00 km (semi-major axis)
29.00 km (semi-minor axis)



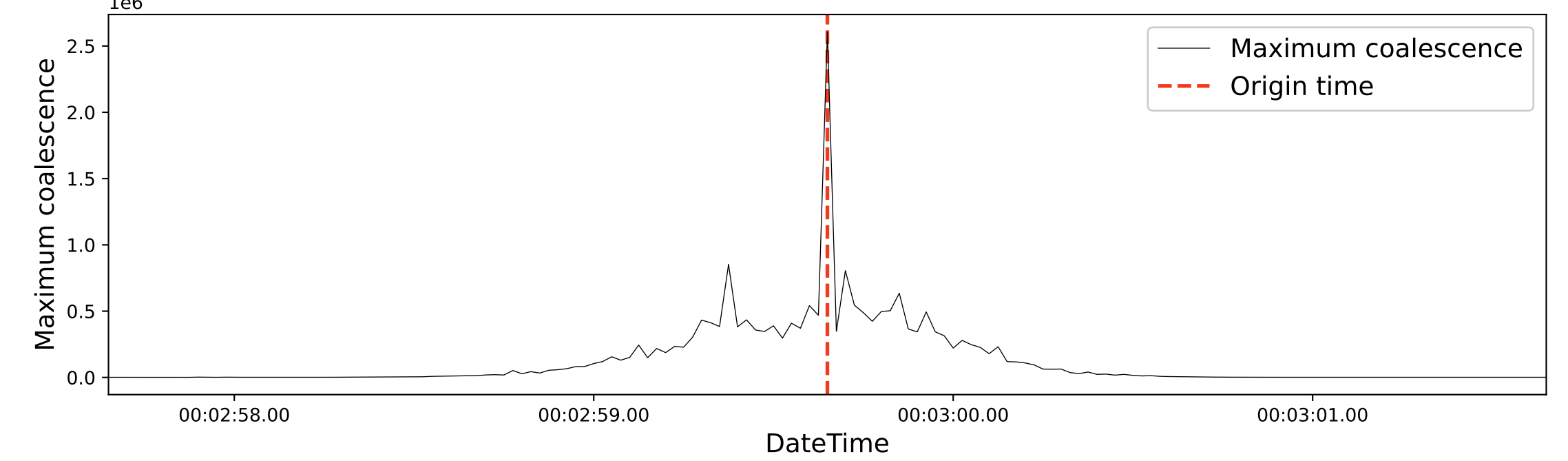
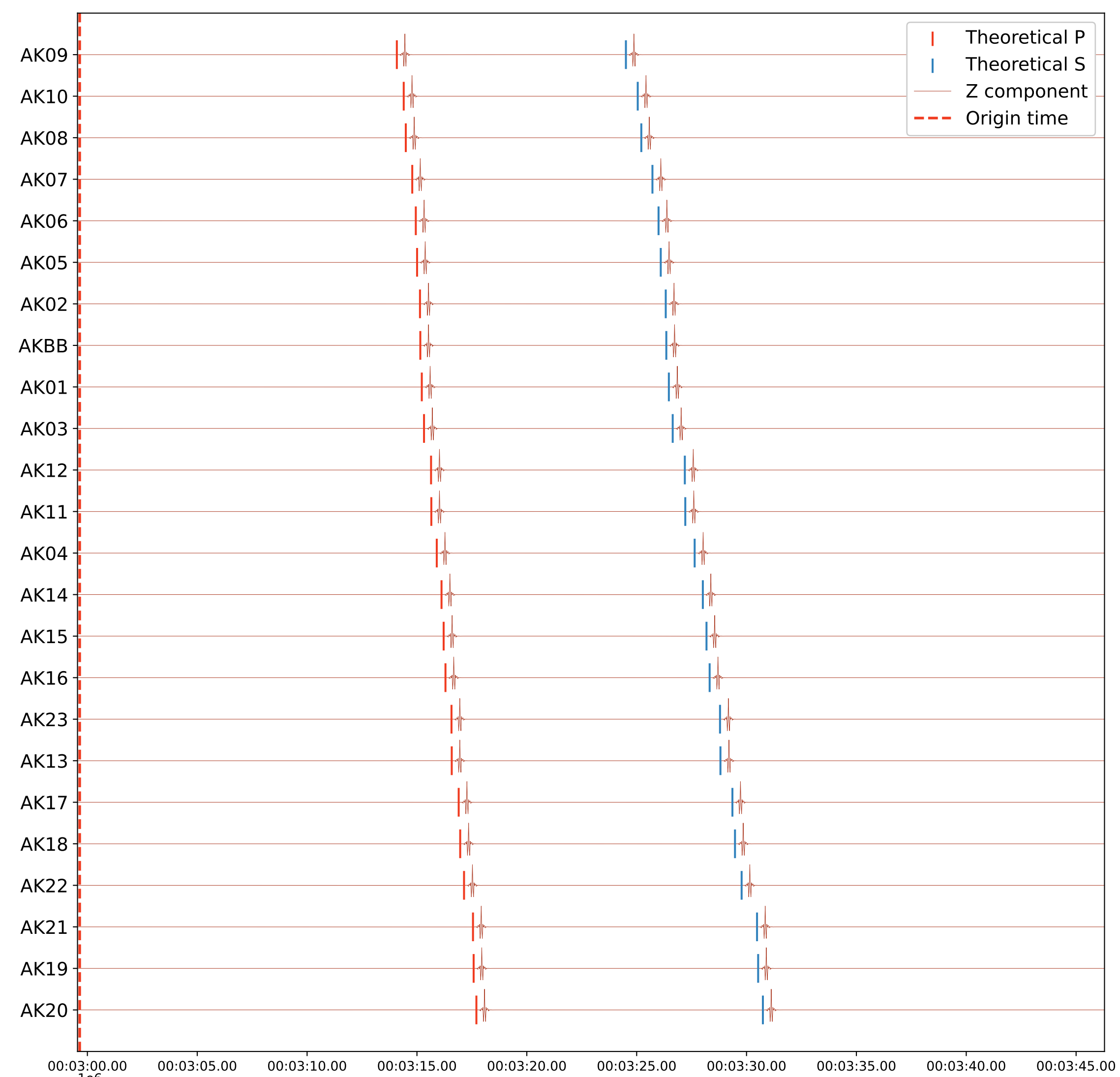
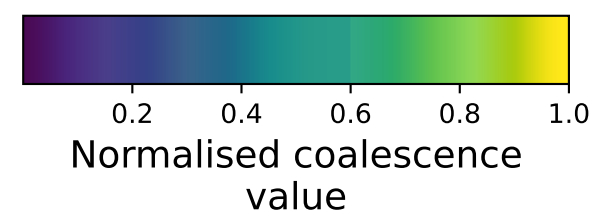
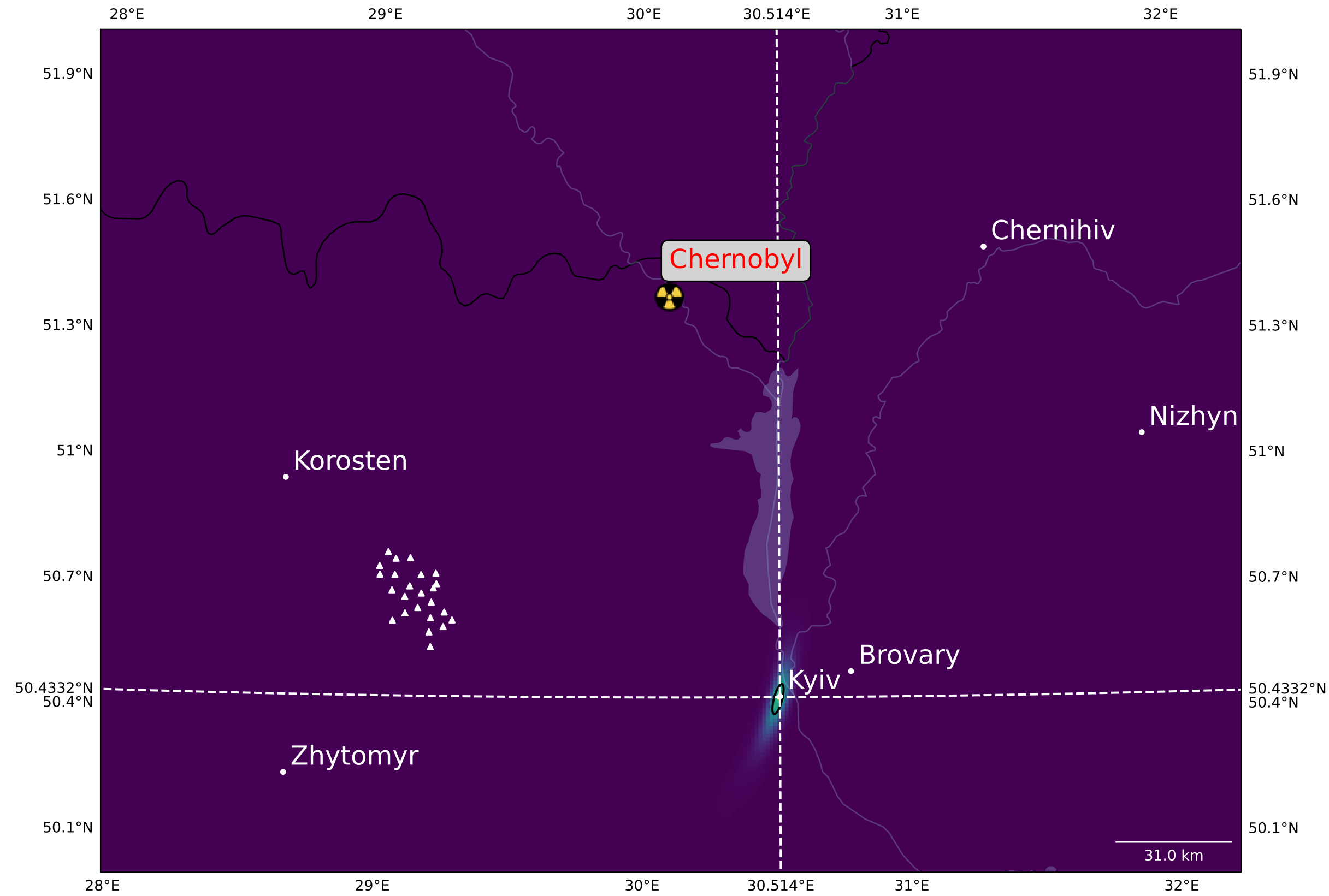
Kyiv point spread function

Origin time: 2022-01-01 00:02:59.650

Hypocentre: 50.4332°N
30.514°E

Location error: 0.00 km

Uncertainty ellipse: 4.10 km (semi-major axis)
1.10 km (semi-minor axis)



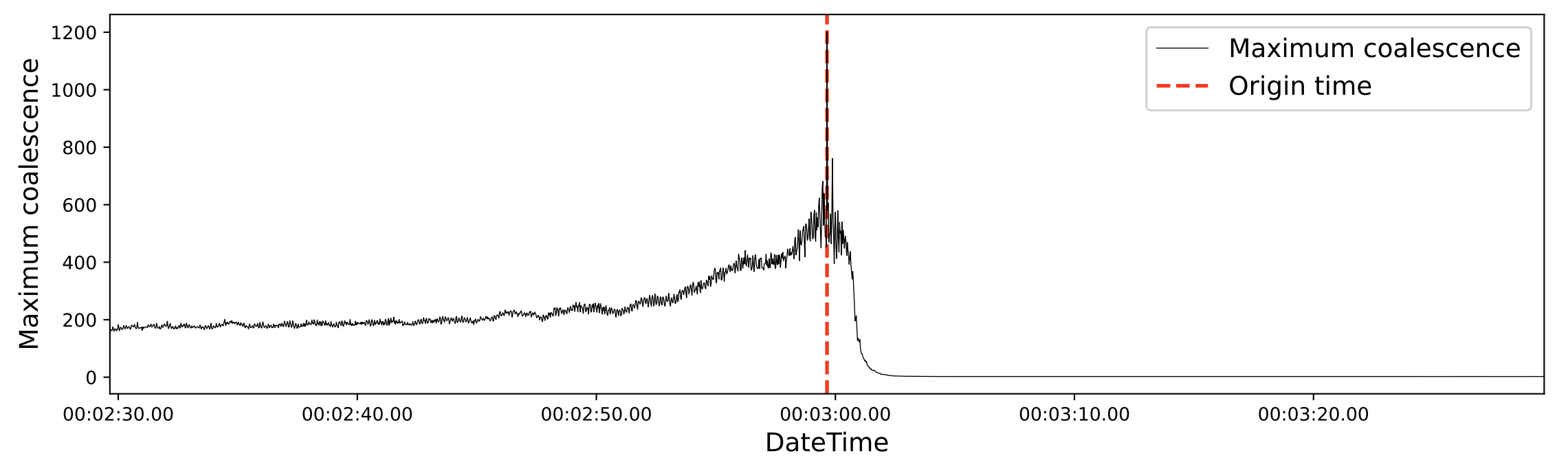
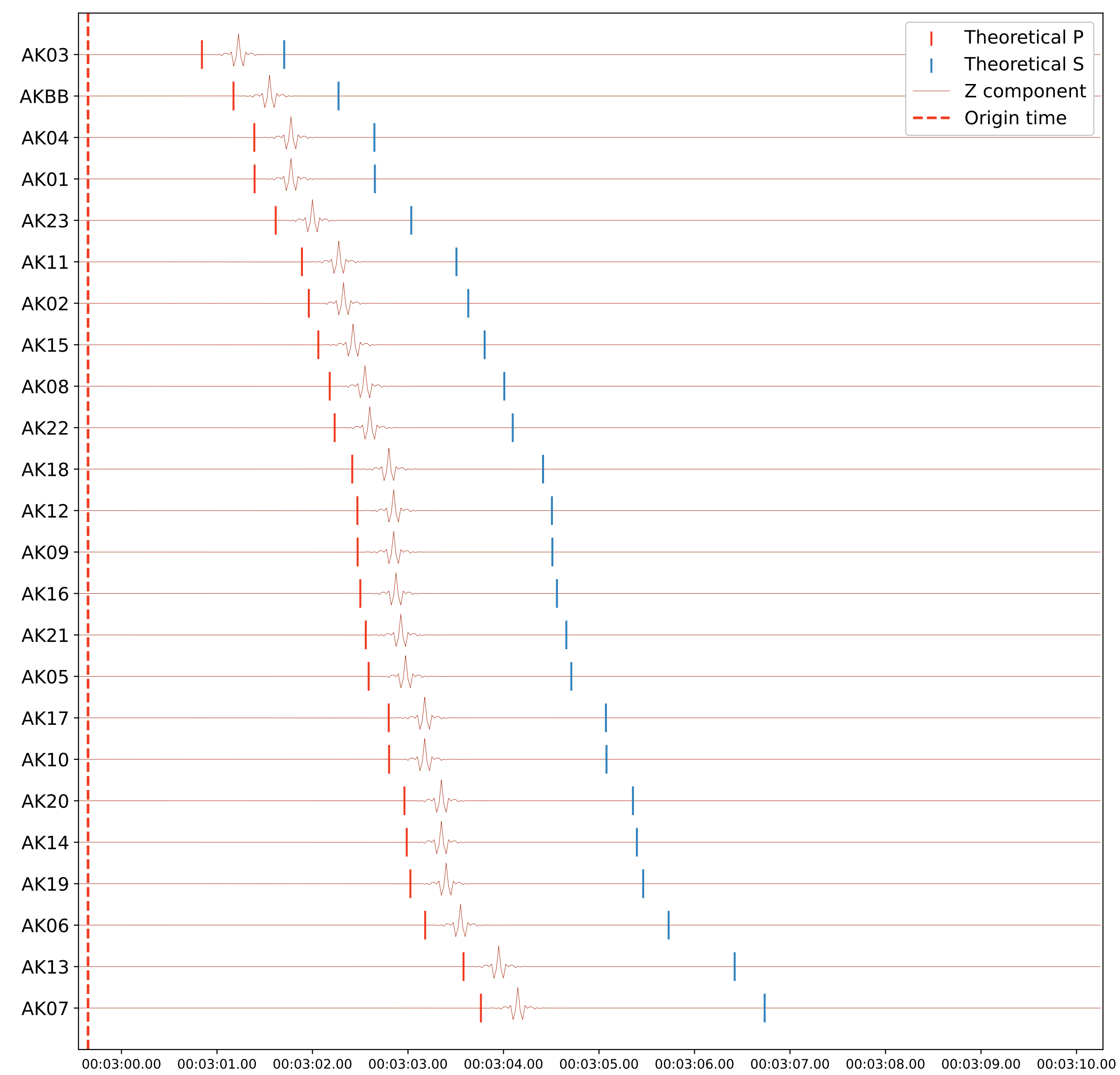
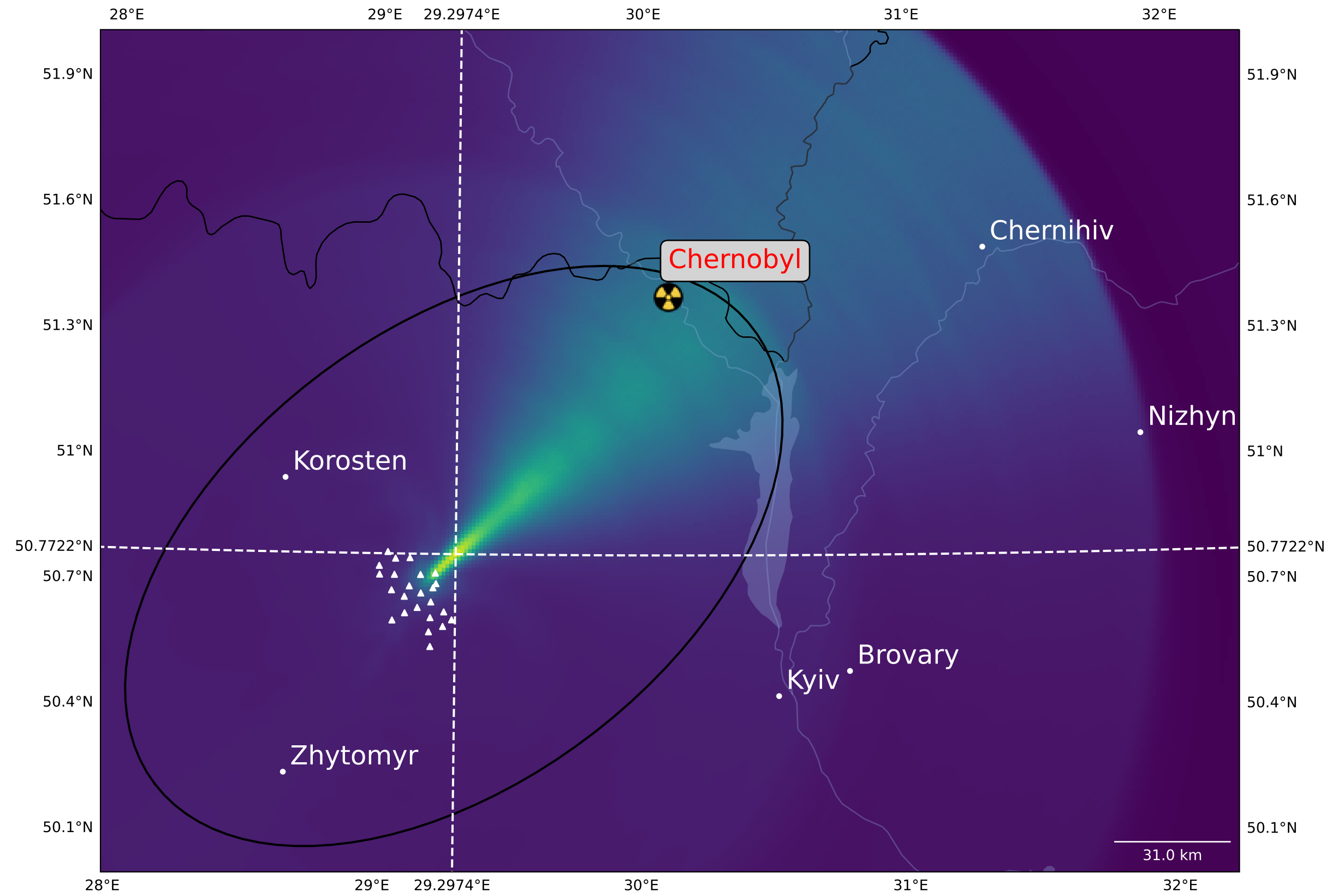
Malyn point spread function

Origin time: 2022-01-01 00:02:59.650

Hypocentre: 50.7722°N
29.2974°E

Location error: 0.00 km

Uncertainty ellipse: 100.00 km (semi-major axis)
60.00 km (semi-minor axis)



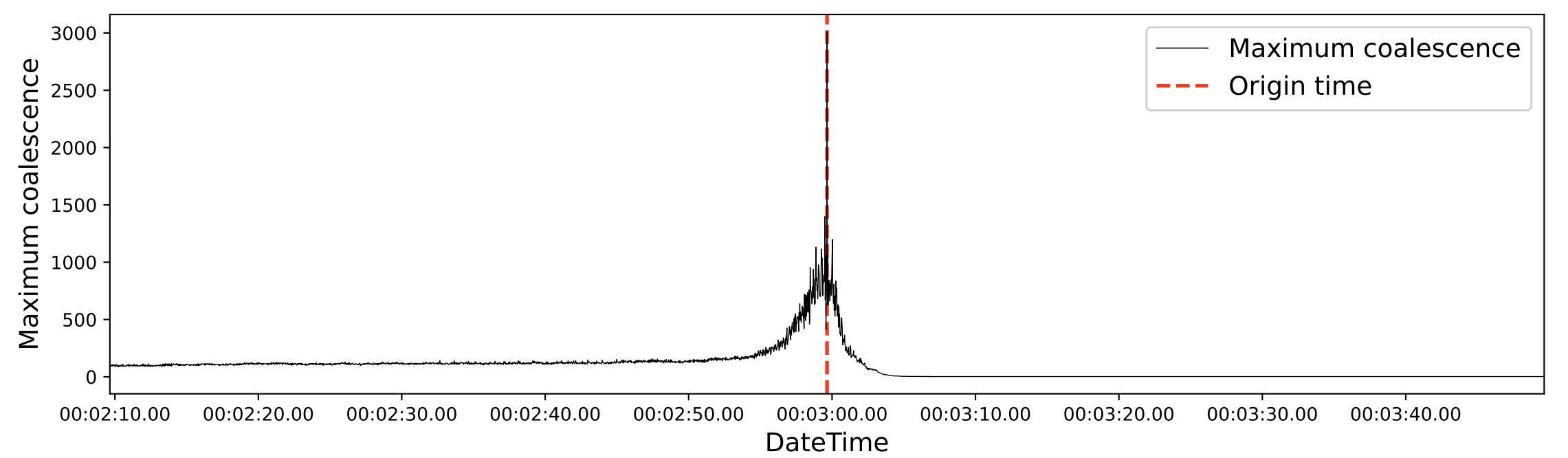
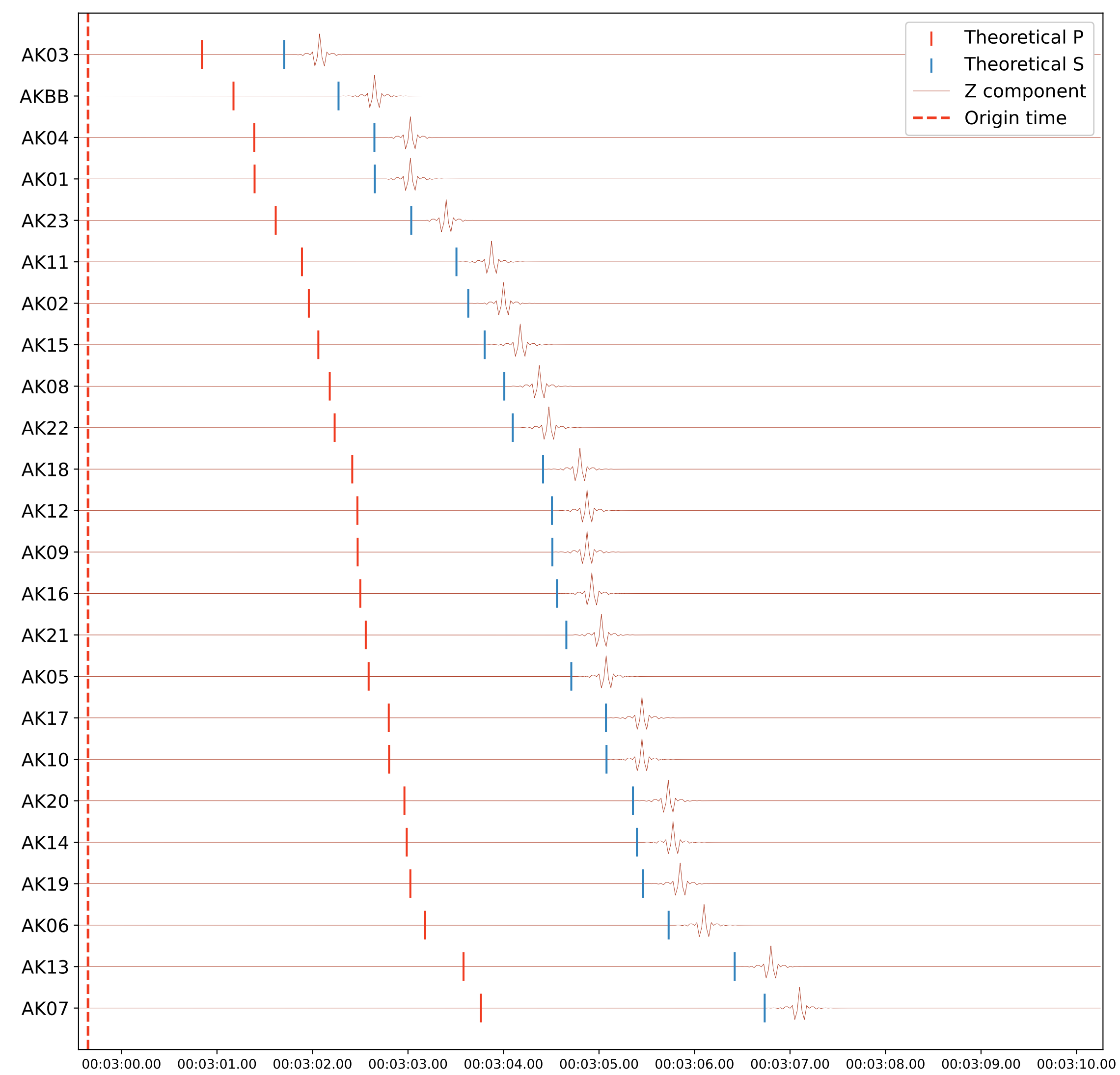
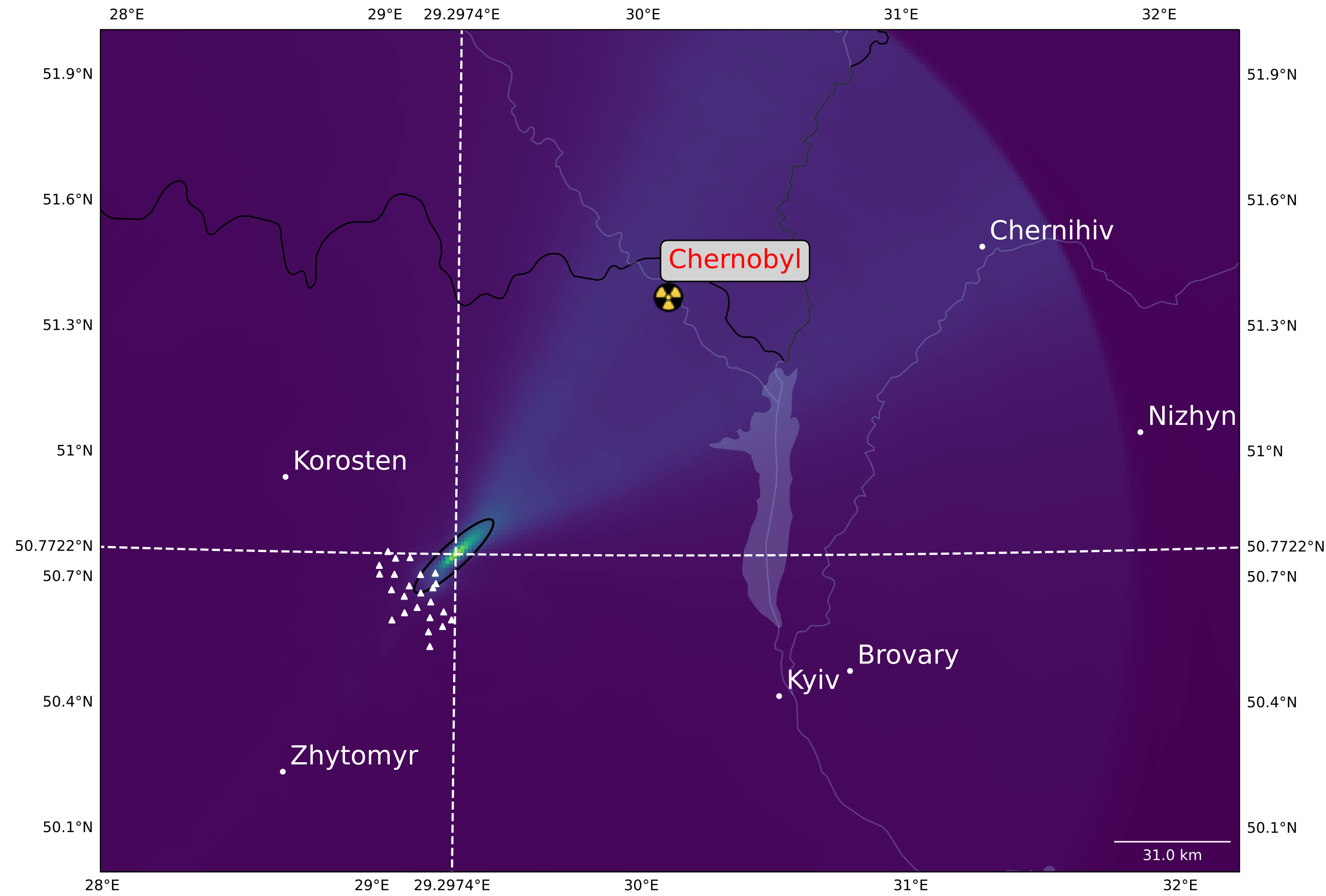
Malyn point spread function

Origin time: 2022-01-01 00:02:59.650

Hypocentre: 50.7722°N
29.2974°E

Location error: 0.00 km

Uncertainty ellipse: 14.00 km (semi-major axis)
3.30 km (semi-minor axis)



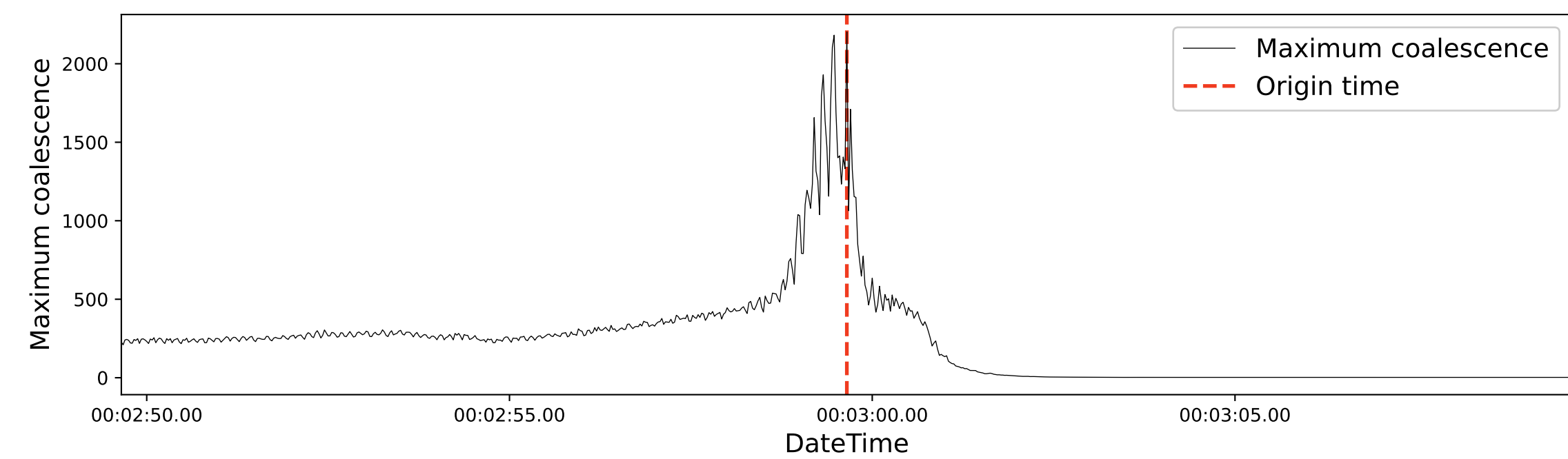
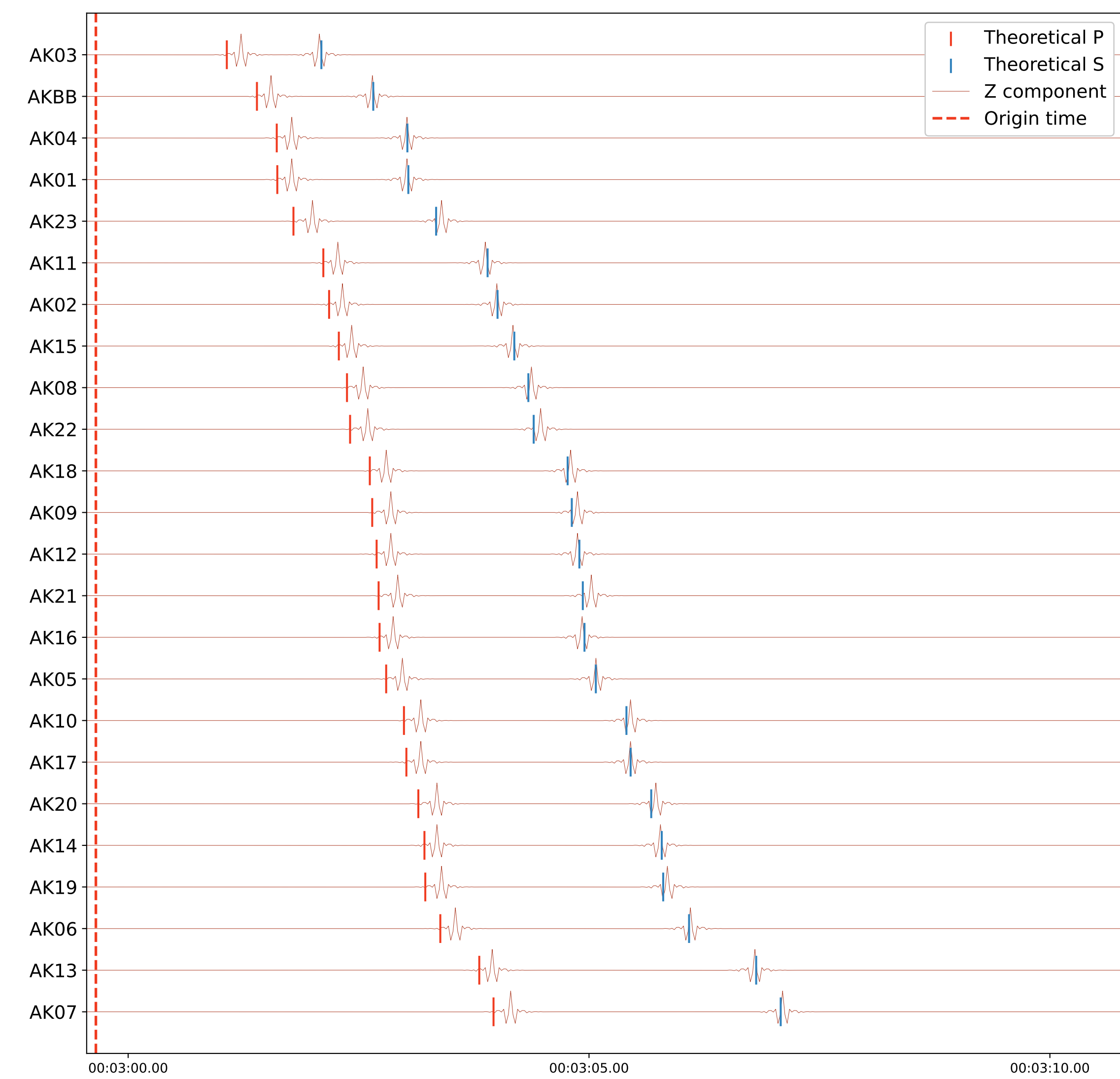
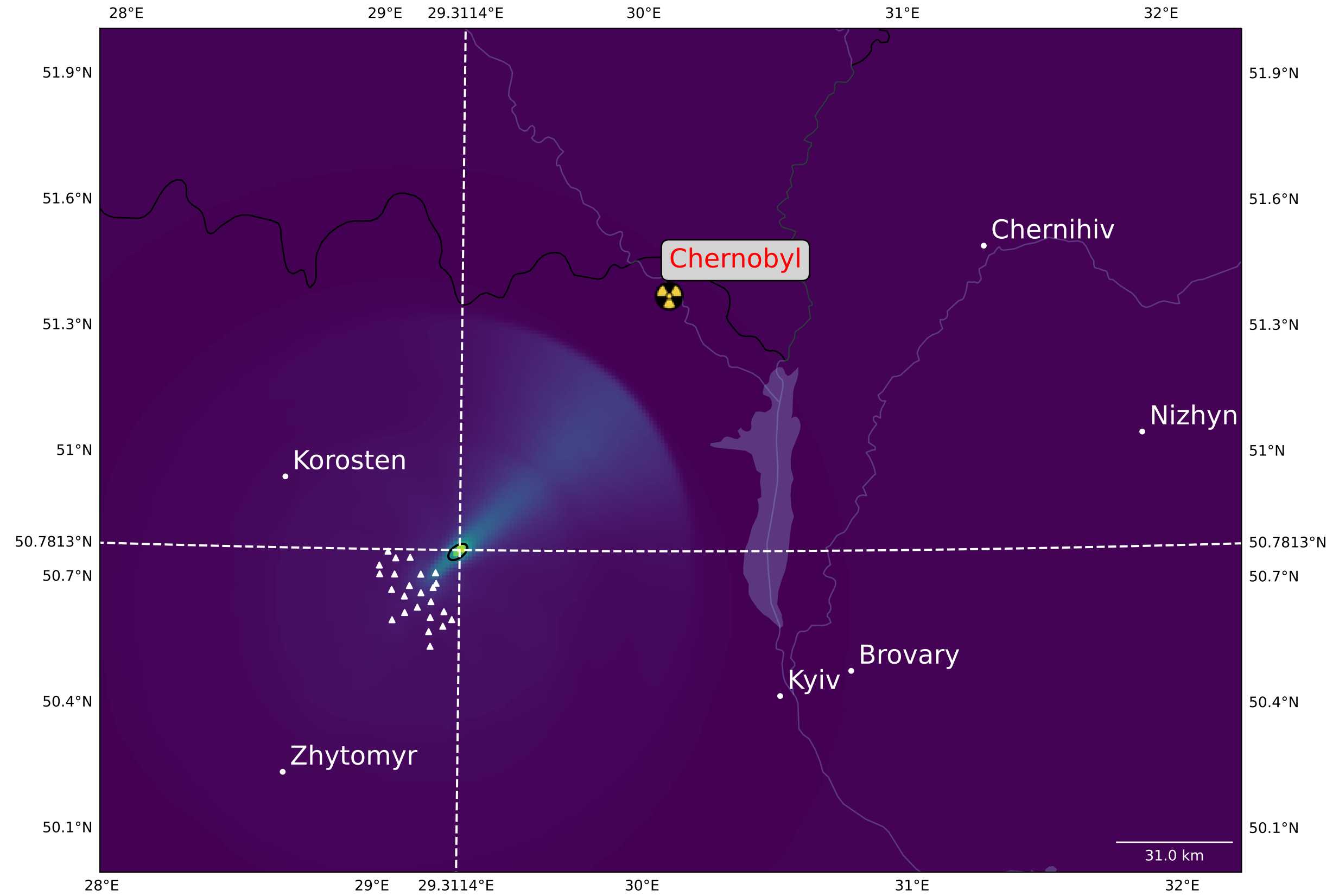
Malyn point spread function

Origin time: 2022-01-01 00:02:59.650

Hypocentre: 50.7813°N
29.3114°E

Location error: 1.41 km

Uncertainty ellipse: 2.90 km (semi-major axis)
1.60 km (semi-minor axis)



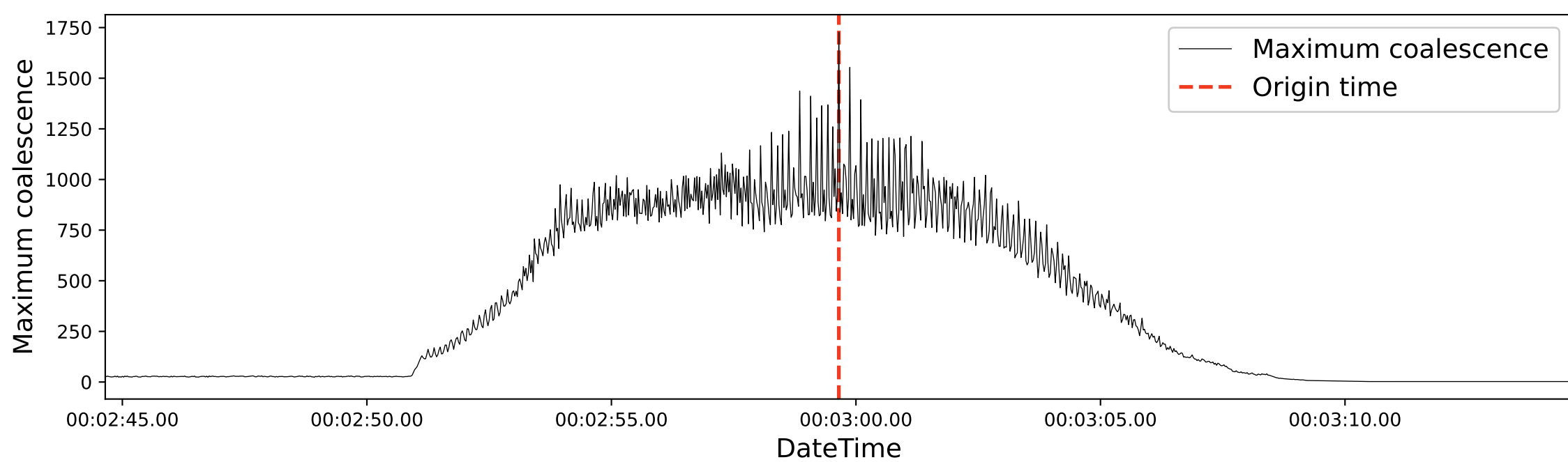
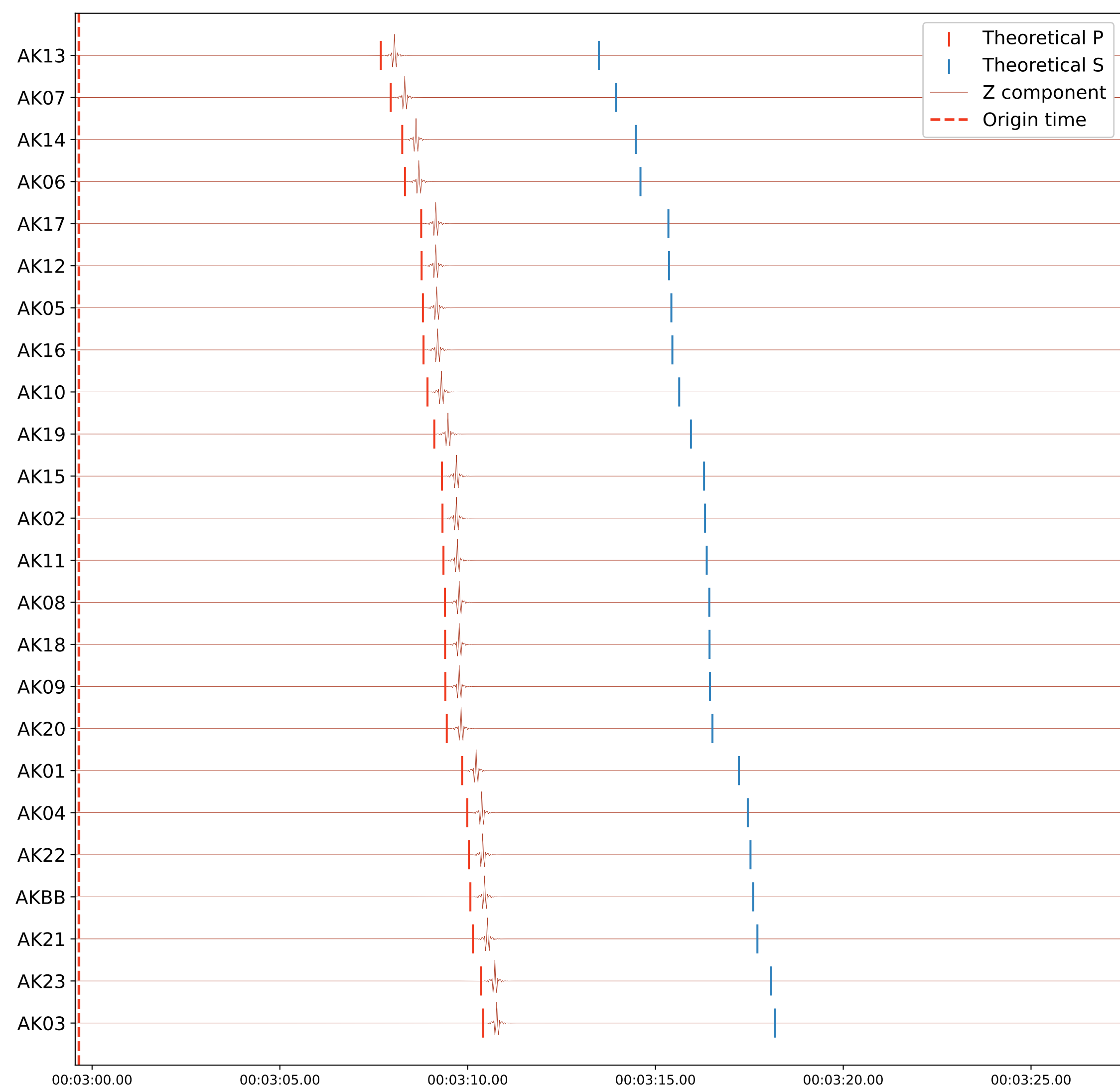
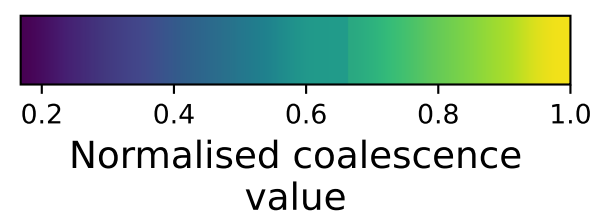
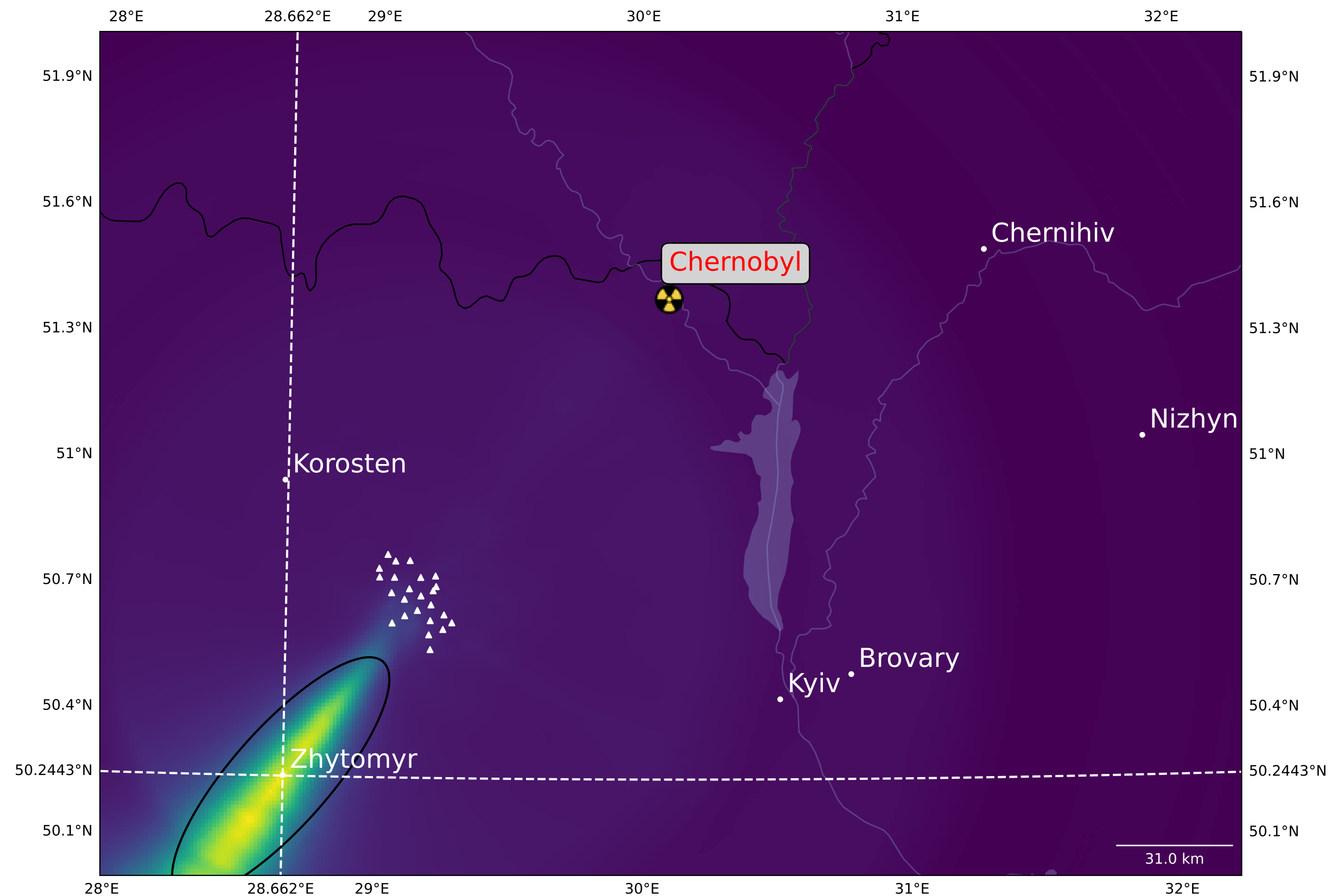
Zhytomyr point spread function

Origin time: 2022-01-01 00:02:59.650

Hypocentre: 50.2443°N
28.662°E

Location error: 0.00 km

Uncertainty ellipse: 41.00 km (semi-major axis)
13.00 km (semi-minor axis)



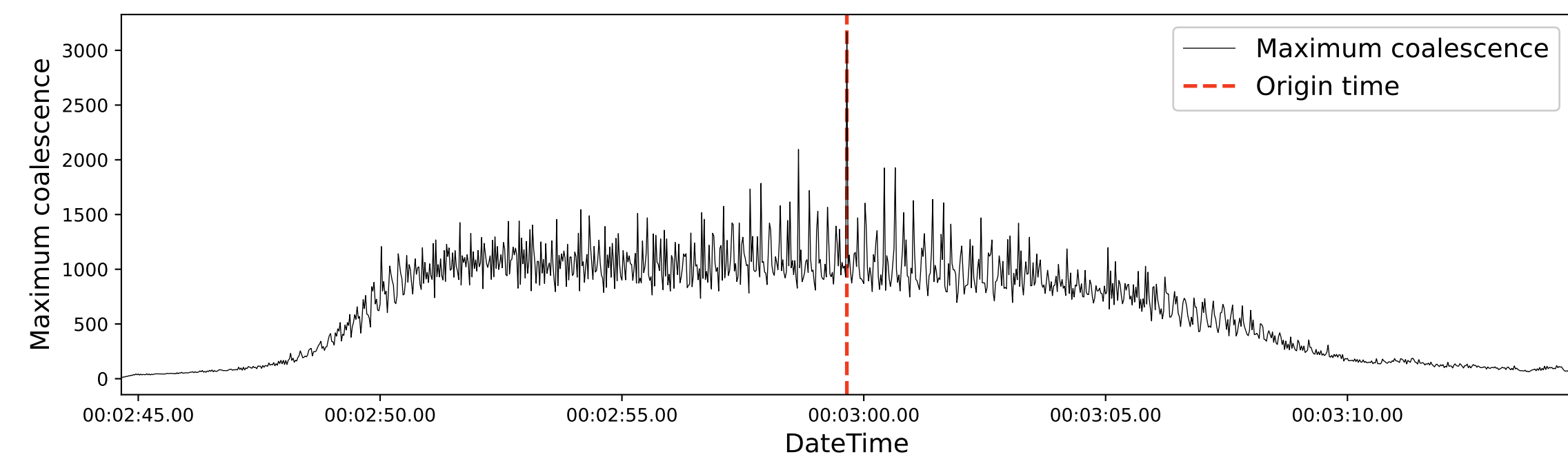
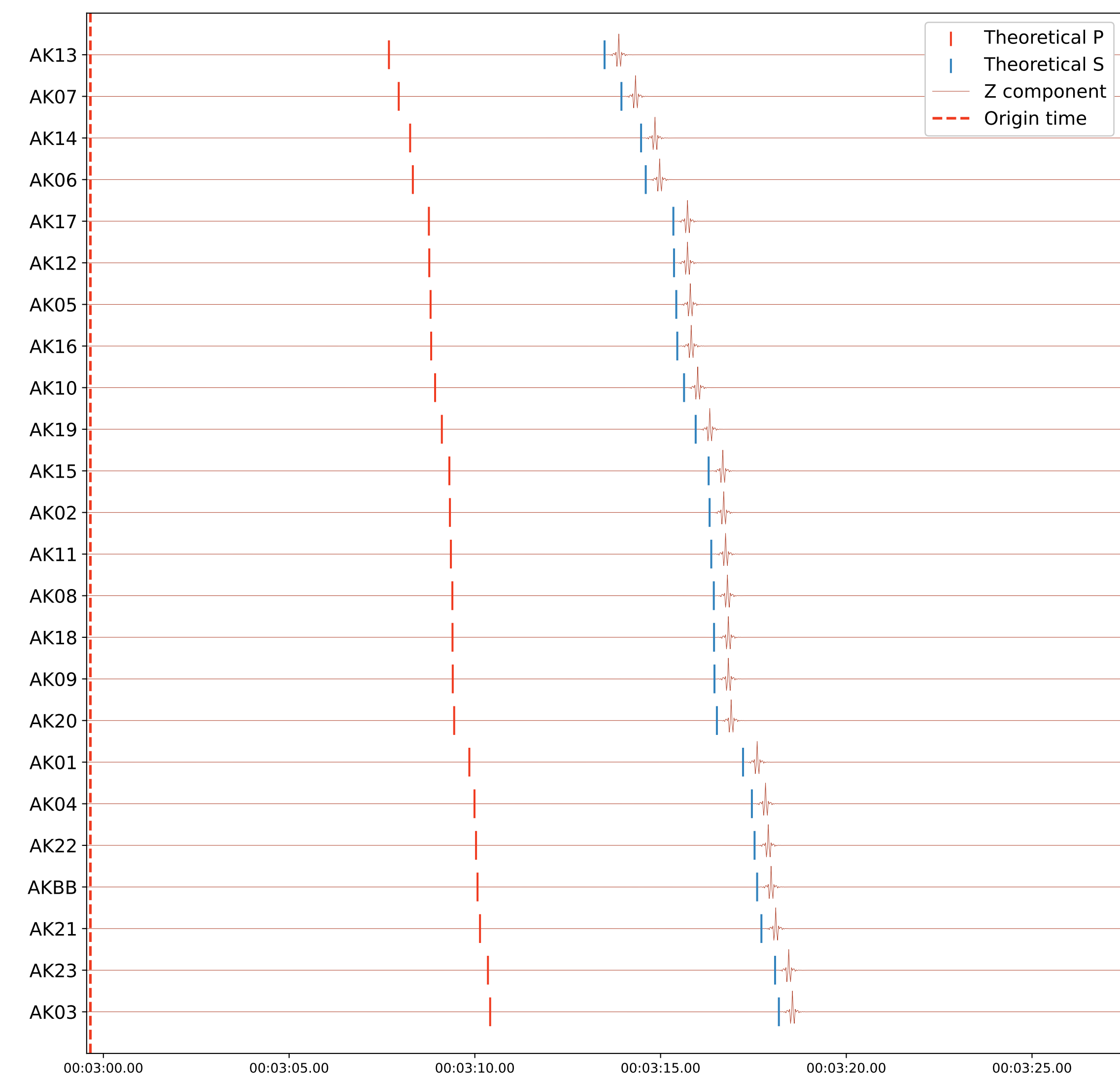
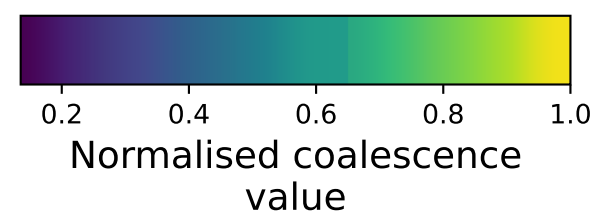
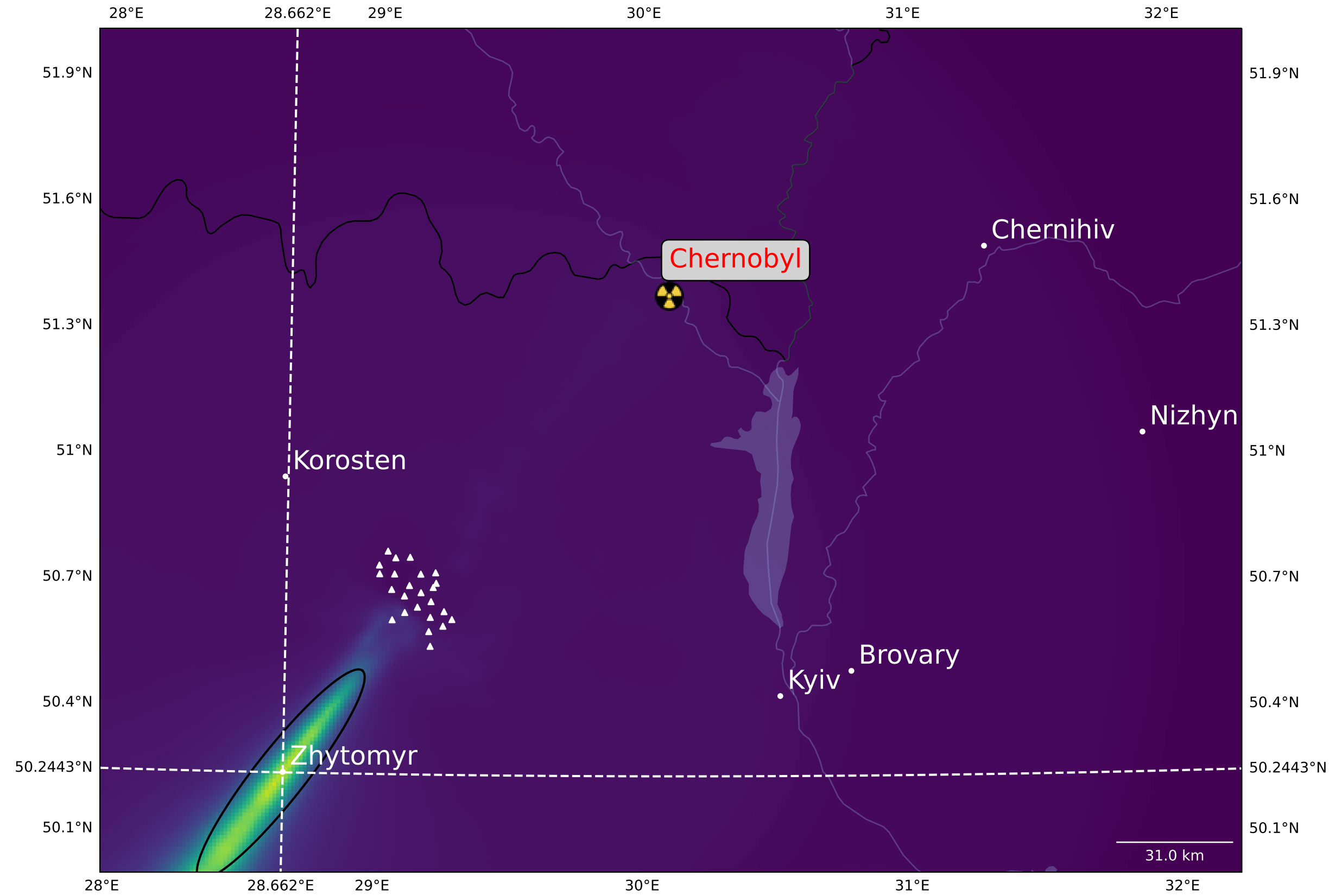
Zhytomyr point spread function

Origin time: 2022-01-01 00:02:59.650

Hypocentre: 50.2443°N
28.662°E

Location error: 0.00 km

Uncertainty ellipse: 35.00 km (semi-major axis)
6.70 km (semi-minor axis)



Zhytomyr point spread function

Origin time: 2022-01-01 00:02:59.650

Hypocentre: 50.2443°N
28.662°E

Location error: 0.00 km

Uncertainty ellipse: 1.40 km (semi-major axis)
0.71 km (semi-minor axis)

