

```
Show[{{ListPlot[
  {{}, {{38.0491, 4.03613}, {38.1862, 4.05574}, {38.3186, 4.07601}, {38.4467, 4.09663},
  {38.5708, 4.11733}, {38.6914, 4.13783}, {38.8087, 4.15787}, {48.5544, 3.59399},
  {48.8874, 3.40246}, {49.1129, 3.35257}, {49.3083, 3.33772}, {49.4896, 3.3364},
  {49.6614, 3.34198}, {49.8257, 3.35175}, {49.9834, 3.36432}, {50.135, 3.37886},
  {50.2809, 3.39477}, {50.4216, 3.41164}, {50.5571, 3.42907}, {50.6879, 3.44675},
  {50.8143, 3.46438}, {50.9366, 3.48169}, {60.7622, 2.80331}, {61.1121, 2.61464},
  {61.3429, 2.56555}, {61.5405, 2.55116}, {61.7227, 2.54991}, {61.8948, 2.55517},
  {62.0591, 2.56423}, {62.2165, 2.57568}, {62.3677, 2.58869}, {62.5131, 2.60268},
  {62.653, 2.61721}, {62.7877, 2.63191}, {62.9176, 2.64646}, {73.2428, 1.71685},
  {73.4958, 1.65433}, {73.7009, 1.63626}}, {{64.3857, -1.16418}}}],
PlotStyle -> {{Black, Blue, Red, Green}}, PlotMarkers -> {o, x, X},
ScalingFunctions -> {Reverse, Identity},
PlotLegends -> {moon below horizon, moon above horizon, e_geminorum}}],
PlotRange -> {{-44.3857, -84.3857}, {-10, 10}},
Epilog ->
{Directive[Red, Opacity[0.2]], Rectangle[{-64.3857, -500}, {-64.3857, 500}],
Line[{{-300, -1.16418}, {300, -1.16418}}],
Directive[Blue, Opacity[0.12]], Directive[Black, Opacity[1]],
Directive[Thickness[Tiny], Black, Opacity[1], Dashing[{Small, Small}]],
Line[{{-48.4801, -180}, {-48.4801, 180}}],
Line[{{-60.656, -180}, {-60.656, 180}}], Line[{{-72.9215, -180}, {-72.9215, 180}}],
Directive[Thickness[Tiny], Red, Opacity[1], Dashing[{Small, Small}]],
Line[{{-42.7951, -180}, {-42.7951, 180}}], Line[{{-55.2022, -180}, {-55.2022, 180}}],
Line[{{-67.5018, -180}, {-67.5018, 180}}]}, ImageSize -> Large, Frame -> True,
FrameLabel -> {{ecliptical latitude  $\beta$  [°], Black dashed line: moon-rise
Red dashed line: moon-set}, {ecliptical longitude  $\lambda$  [°], Observation: 5579
year: -93 ,month: 7 ,day: 23 (+/- 1 day)
event: last_part_of_night
the moon is kus and 0 si in_front_of e_geminorum}}]
```