```
dateMouseSessionListV1 =
  {{"010621", "Mouse23332", "Session1"}, {"010821", "Mouse23332", "Session2"},
   {"011321", "Mouse23332", "Session1"}, {"011821", "Mouse23332", "Session1"},
   {"121420", "Mouse23312", "Session2"}, {"121020", "Mouse23312", "Session4"},
   {"111120", "Mouse23385", "Session1"}, {"111820", "Mouse23385", "Session1"},
   {"120320", "Mouse23385", "Session2"}, {"092720", "Mouse21068", "Session1"},
   {"092920", "Mouse21068", "Session1"}, {"092220", "Mouse23336", "Session1"},
   {"072520", "Mouse21036", "Session2"}, {"080920", "Mouse21036", "Session1"},
   {"081120", "Mouse21036", "Session1"}, {"081320", "Mouse21036", "Session2"},
   {"080820", "Mouse21019", "Session2"}, {"081120", "Mouse21019", "Session1"},
   {"080620", "Mouse21062", "Session1"}, {"031621", "Mouse23324", "Session2"},
   {"030921", "Mouse23324", "Session4"}, {"030821", "Mouse23321", "Session1"},
   {"031121", "Mouse23321", "Session2"}, {"031621", "Mouse23321", "Session2"}};

dateMouseSessionListV2m = {{"011721", "Mouse23390", "Session2"},
   {"011821", "Mouse23390", "Session2"}, {"010321", "Mouse23382", "Session1"},
   {"010621", "Mouse23382", "Session2"}, {"111420", "Mouse23383", "Session3"},
   {"111720", "Mouse23383", "Session1"}, {"112120", "Mouse23383", "Session2"},
   {"120520", "Mouse23383", "Session2"}, {"092620", "Mouse21069", "Session2"},
   {"093020", "Mouse21069", "Session2"}, {"092020", "Mouse21011", "Session2"},
   {"090420", "Mouse21076", "Session1"}, {"090520", "Mouse21076", "Session2"},
   {"022821", "Mouse23390", "Session1"}, {"030421", "Mouse23390", "Session1"},
   {"021721", "Mouse23338", "Session1"}, {"031621", "Mouse23338", "Session1"},
   {"031821", "Mouse23338", "Session2"}, {"021821", "Mouse23310", "Session1"},
   {"022621", "Mouse23310", "Session2"}, {"030221", "Mouse23310", "Session1"},
   {"031121", "Mouse23310", "Session1"}, {"031921", "Mouse23310", "Session2"}};
```

In[ ]:=
```
(*********************************************)
(*******Generate plots in Figure S3A***************)
(*********************************************)
```

In[ ]:=
```
meanDFFzOnsetV1 = ToExpression /@ Import[
     "F:/FigureGeneration/FigureS2/FigureS2Data/CellBodies/V1/ValuesForPlotting/
       meanDFFzTraceOnset_V1.txt", "List"];
```

In[ ]:=
```
semDFFzOnsetV1 = ToExpression /@ Import[
     "F:/FigureGeneration/FigureS2/FigureS2Data/CellBodies/V1/ValuesForPlotting/
       semDFFzTraceOnset_V1.txt", "List"];
```

In[ ]:=
```
meanDFFzOffsetV1 = ToExpression /@ Import[
     "F:/FigureGeneration/FigureS2/FigureS2Data/CellBodies/V1/ValuesForPlotting/
       meanDFFzTraceOffset_V1.txt", "List"];
```

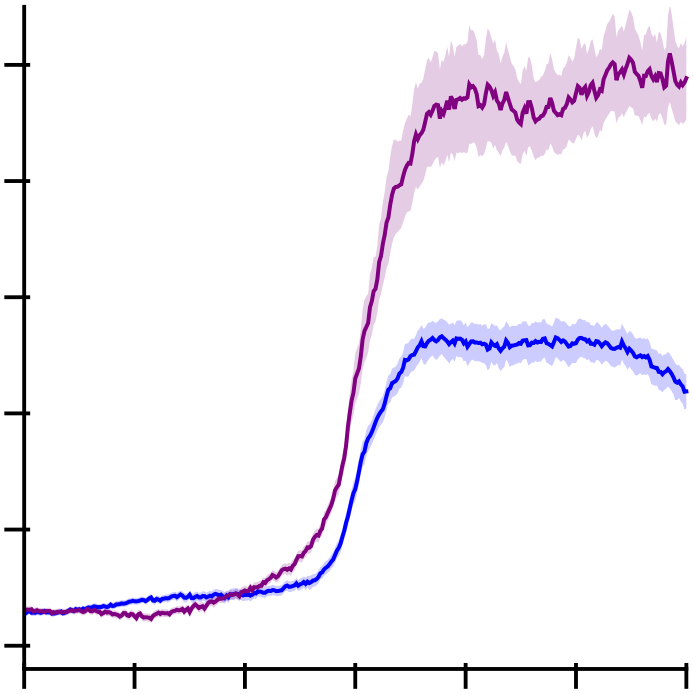
In[ ]:=
```
semDFFzOffsetV1 = ToExpression /@ Import[
     "F:/FigureGeneration/FigureS2/FigureS2Data/CellBodies/V1/ValuesForPlotting/
       semDFFzTraceOffset_V1.txt", "List"];
```

In[ ]:=
```
meanDFFzOnsetV2m = ToExpression /@ Import[
     "F:/FigureGeneration/FigureS2/FigureS2Data/CellBodies/V2m/ValuesForPlotting/
       meanDFFzTraceOnset_V2m.txt", "List"];
```

In[ ]:=
```
semDFFzOnsetV2m = ToExpression /@ Import[
     "F:/FigureGeneration/FigureS2/FigureS2Data/CellBodies/V2m/ValuesForPlotting/
       semDFFzTraceOnset_V2m.txt", "List"];
```

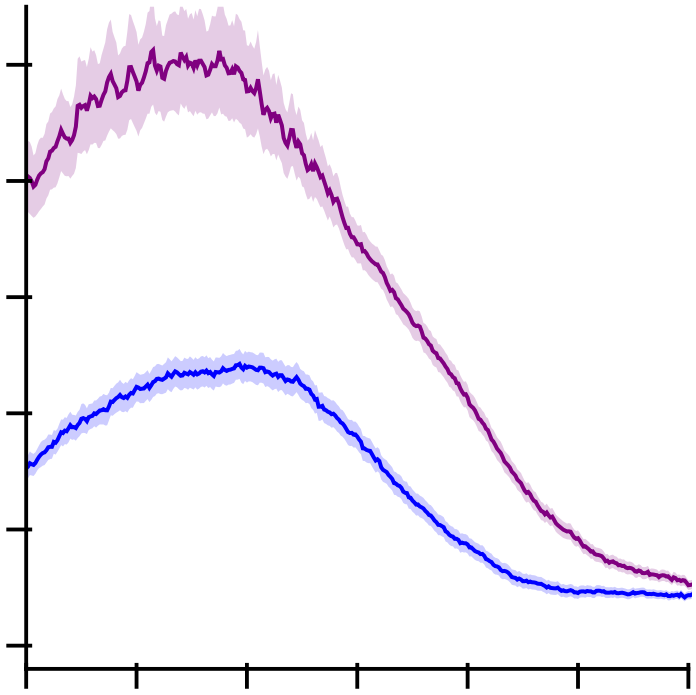
```
In[ ]:= meanDFFzOffsetV2m = ToExpression /@ Import[
          "F:/FigureGeneration/FigureS2/FigureS2Data/CellBodies/V2m/ValuesForPlotting/
            meanDFFzTraceOffset_V2m.txt", "List"];

In[ ]:= semDFFzOffsetV2m = ToExpression /@ Import[
          "F:/FigureGeneration/FigureS2/FigureS2Data/CellBodies/V2m/ValuesForPlotting/
            semDFFzTraceOffset_V2m.txt", "List"];

In[ ]:= ListLinePlot[{Part[#, 2] & /@ meanDFFzOnsetV1,
          Part[#, 2] & /@ meanDFFzOnsetV1 + (Part[#, 2] & /@ semDFFzOnsetV1),
          Part[#, 2] & /@ meanDFFzOnsetV1 - (Part[#, 2] & /@ semDFFzOnsetV1),
          Part[#, 2] & /@ meanDFFzOnsetV2m,
          Part[#, 2] & /@ meanDFFzOnsetV2m + (Part[#, 2] & /@ semDFFzOnsetV2m),
          Part[#, 2] & /@ meanDFFzOnsetV2m - (Part[#, 2] & /@ semDFFzOnsetV2m)}, Filling →
          {1 → {{2}, Directive[Opacity[0.2], Blue]}, 1 → {{3}, Directive[Opacity[0.2], Blue]},
           4 → {{5}, Directive[Opacity[0.2], Purple]}, 4 → {{6}, Directive[Opacity[0.2], Purple]}},
         PlotStyle → {{Blue, Thickness[0.006]}, Transparent, Transparent, {Purple,
            Thickness[0.006]}, Transparent, Transparent, {Darker@Orange, Thickness[0.006]},
           Transparent, Transparent, {Darker@Yellow, Thickness[0.006]}, Transparent, Transparent},
         DataRange → {-15, 6}, PlotRange → {{-6, 6}, {-0.2, 5.5}}, FrameTicks →
          {{LinTicks[-0.2, 5.5, MajorTickLength → {0, .03}, MinorTickLength → {0, 0}], None},
           {LinTicks[-6, 6, MajorTickLength → {0, .03}, MinorTickLength → {0, 0}], None}},
         Axes → False, TicksStyle → Thick, FrameStyle → Thick,
         Frame → {{True, None}, {True, None}}, AspectRatio → 1,
         FrameTicksStyle -> Directive[FontOpacity -> 0, FontSize -> 0]]
```

Out[ ]=



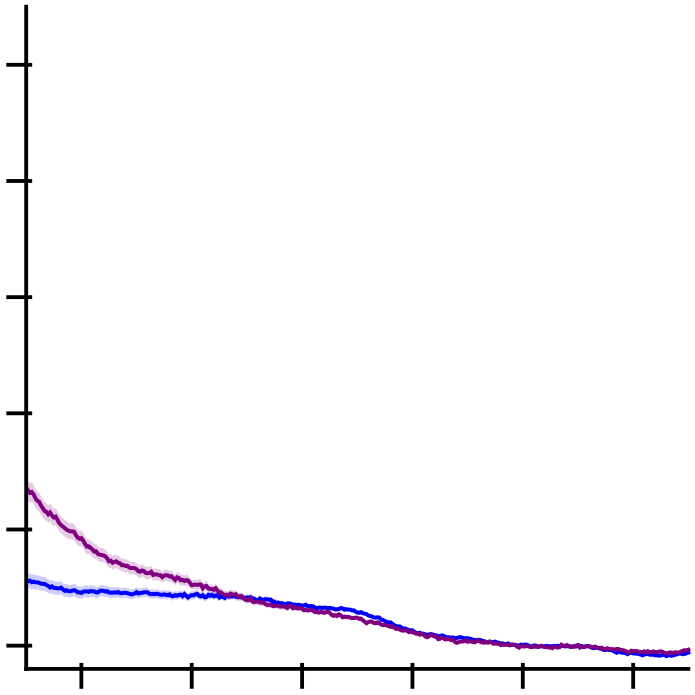
In[ ]:=
```
ListLinePlot[{Part[#, 2] & /@ meanDFFzOffsetV1,
  Part[#, 2] & /@ meanDFFzOffsetV1 + (Part[#, 2] & /@ semDFFzOffsetV1),
  Part[#, 2] & /@ meanDFFzOffsetV1 - (Part[#, 2] & /@ semDFFzOffsetV1),
  Part[#, 2] & /@ meanDFFzOffsetV2m,
  Part[#, 2] & /@ meanDFFzOffsetV2m + (Part[#, 2] & /@ semDFFzOffsetV2m),
  Part[#, 2] & /@ meanDFFzOffsetV2m - (Part[#, 2] & /@ semDFFzOffsetV2m)}, Filling →
  {1 → {{2}, Directive[Opacity[0.2], Blue]}, 1 → {{3}, Directive[Opacity[0.2], Blue]},
   4 → {{5}, Directive[Opacity[0.2], Purple]}, 4 → {{6}, Directive[Opacity[0.2], Purple]}},
 PlotStyle → {{Blue, Thickness[0.006]}, Transparent, Transparent, {Purple,
    Thickness[0.006]}, Transparent, Transparent, {Darker@Orange, Thickness[0.006]},
   Transparent, Transparent, {Darker@Yellow, Thickness[0.006]}, Transparent, Transparent},
 DataRange → {-6, 15}, PlotRange → {{-6, 6}, {-0.2, 5.5}}, FrameTicks →
  {{LinTicks[-0.2, 5.5, MajorTickLength → {0, .03}, MinorTickLength → {0, 0}], None},
   {LinTicks[-6, 6, MajorTickLength → {0, .03}, MinorTickLength → {0, 0}], None}},
 Axes → False, TicksStyle → Thick, FrameStyle → Thick,
 Frame → {{True, None}, {True, None}}, AspectRatio → 1,
 FrameTicksStyle -> Directive[FontOpacity -> 0, FontSize -> 0]]
```

Out[ ]=



In[ ]:=
```
ListLinePlot[{Part[#, 2] & /@ meanDFFzOffsetV1,
  Part[#, 2] & /@ meanDFFzOffsetV1 + (Part[#, 2] & /@ semDFFzOffsetV1),
  Part[#, 2] & /@ meanDFFzOffsetV1 - (Part[#, 2] & /@ semDFFzOffsetV1),
  Part[#, 2] & /@ meanDFFzOffsetV2m,
  Part[#, 2] & /@ meanDFFzOffsetV2m + (Part[#, 2] & /@ semDFFzOffsetV2m),
  Part[#, 2] & /@ meanDFFzOffsetV2m - (Part[#, 2] & /@ semDFFzOffsetV2m)}, Filling →
  {1 → {{2}, Directive[Opacity[0.2], Blue]}, 1 → {{3}, Directive[Opacity[0.2], Blue]},
   4 → {{5}, Directive[Opacity[0.2], Purple]}, 4 → {{6}, Directive[Opacity[0.2], Purple]}},
 PlotStyle → {{Blue, Thickness[0.006]}, Transparent, Transparent, {Purple,
    Thickness[0.006]}, Transparent, Transparent, {Darker@Orange, Thickness[0.006]},
   Transparent, Transparent, {Darker@Yellow, Thickness[0.006]}, Transparent, Transparent},
 DataRange → {-6, 15}, PlotRange → {{3, 15}, {-0.2, 5.5}}, FrameTicks →
  {{LinTicks[-0.2, 5.5, MajorTickLength → {0, .03}, MinorTickLength → {0, 0}], None},
   {LinTicks[3, 15, MajorTickLength → {0, .03}, MinorTickLength → {0, 0}], None}},
 Axes → False, TicksStyle → Thick, FrameStyle → Thick,
 Frame → {{True, None}, {True, None}}, AspectRatio → 1,
 FrameTicksStyle -> Directive[FontOpacity -> 0, FontSize -> 0]]
```

Out[ ]=



```
(*********************************************)
(*******Generate plots in Figure S3B***************)
(*********************************************)

locModValsV1 = ToExpression /@ Import[
    "F:/FigureGeneration/FigureS2/FigureS2Data/CellBodies/V1/ValuesForPlotting/
      locModIndexSummVals_V1.txt", "List"];

locModValsV2m = ToExpression /@ Import[
    "F:/FigureGeneration/FigureS2/FigureS2Data/CellBodies/V2m/ValuesForPlotting/
      locModIndexSummVals_V2m.txt", "List"];
```

```
v1Charts = Show[BoxWhiskerChart[locModValsV1,
    {{"Whiskers", Directive[Blue, Thick]}, {"Fences", Directive[Blue, Thick]},
     {"MedianMarker", Directive[Blue, Thickness[0.009]]}}, PlotRange → {All, {-1.2, 1}},
    ChartStyle → Directive[Blue, Opacity[0.3]], Frame → False],
   DistributionChart[locModValsV1, PlotRange → {All, {-1.2, 1}},
    ChartStyle → Directive[EdgeForm[Transparent], Opacity[0.2], Blue], Frame → False],
   FrameTicks → {{LinTicks[-1.2, 1, MajorTickLength → {0, .03}, MinorTickLength → {0, 0}],
      None}, {None, None}}, Axes → False, TicksStyle → Thick,
   FrameStyle → Directive[Transparent, Thick], Frame → {{True, None}, {None, None}},
   FrameTicksStyle -> Directive[FontOpacity -> 0, FontSize -> 0]];

pmCharts = Show[BoxWhiskerChart[locModValsV2m,
    {{"Whiskers", Directive[Purple, Thick]}, {"Fences", Directive[Purple, Thick]},
     {"MedianMarker", Directive[Purple, Thickness[0.009]]}}, PlotRange → {All, {-1.2, 1}},
    ChartStyle → Directive[Purple, Opacity[0.3]], Frame → False],
   DistributionChart[locModValsV2m, PlotRange → {All, {-1.2, 1}},
    ChartStyle → Directive[EdgeForm[Transparent], Opacity[0.2], Purple], Frame → False],
   FrameTicks → {{LinTicks[-1.2, 1, MajorTickLength → {0, .03}, MinorTickLength → {0, 0}],
      None}, {None, None}}, Axes → False, TicksStyle → Thick,
   FrameStyle → Directive[Transparent, Thick], Frame → {{True, None}, {None, None}},
   FrameTicksStyle -> Directive[FontOpacity -> 0, FontSize -> 0]];

transp =
  Show[BoxWhiskerChart[locModValsV2m, {{"Whiskers", Directive[Transparent, Thick]},
     {"Fences", Directive[Transparent, Thick]},
     {"MedianMarker", Directive[Transparent, Thickness[0.009]]}},
    PlotRange → {All, {-1.2, 1}}, ChartStyle → Transparent, Frame → False],
   DistributionChart[locModValsV2m, PlotRange → {All, {-1.2, 1}}, ChartStyle →
     Directive[EdgeForm[Transparent], Opacity[0.2], Transparent], Frame → False],
   FrameTicks → {{LinTicks[-1.2, 1, MajorTickLength → {0, .03}, MinorTickLength → {0, 0}],
      None}, {None, None}}, Axes → False, TicksStyle → Thick,
   FrameStyle → Directive[Black, Thick], Frame → {{True, None}, {None, None}},
   FrameTicksStyle -> Directive[FontOpacity -> 0, FontSize -> 0]];
```

In[ ]:=
```
GraphicsRow[{v1Charts, pmCharts, transp}, Spacings → {{-280, -280, -320}}]
```

Out[ ]=