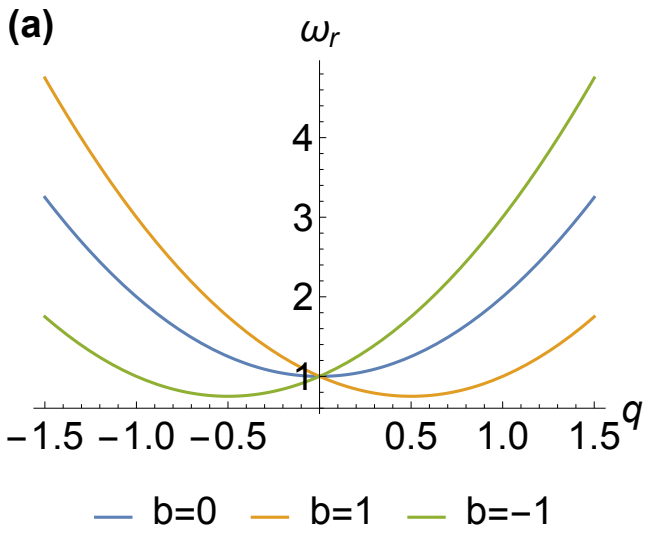
In[1]:=
```
Clear@"`*"
SetOptions[Plot, BaseStyle → {FontSize → 20}];
SetOptions[ContourPlot, BaseStyle → {FontSize → 20}];
(*Take[$FontFamilies,300])
```

In[4]:=
```
alpha = 0.02;
beta = 0;
```

In[6]:=
```
pa =
 Plot[{{1 + q^2 - b q - alpha beta b q} /. b → 0, {1 + q^2 - b q - alpha beta b q} /. b → 1,
   {1 + q^2 - b q - alpha beta b q} /. b → -1}, {q, -1.5, 1.5}, PlotLegends →
   Placed[{"b=0", "b=1", "b=-1"}, {ImageScaled[{0.5, -0.2}], {0.5, 0}}],
  LabelStyle → Directive[FontSize → 20], AxesLabel → {q, "ωr"},
  ImageSize → {380, 300},
  Epilog → Text[Style["(a)", Bold, 20], ImageScaled@{.04, .96}],
  PlotRangeClipping → False]
```

Out[6]=

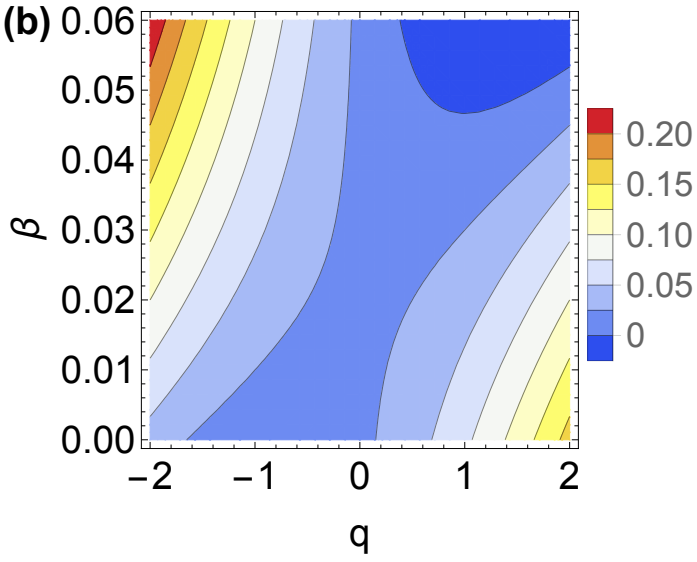


In[7]:=

In[8]:=

In[9]:=
```
pb = ContourPlot[alpha (1 + q^2 - b q) + beta b q /. b → -1.5,
   {q, -2, 2}, {beta, 0, 0.06}, FrameLabel → {"q", "β"}, PlotLegends →
    Placed[BarLegend[Automatic, LabelStyle → Directive[FontSize → 18],
      LegendMarkerSize → 150, LegendMargins → 0], {{1, 0.5}, {0, 0.4}}],
   ColorFunction → "TemperatureMap", ImageSize → {365, 300},
   Epilog → Text[Style["(b)", Bold, 20], ImageScaled@{.04, .96}],
   PlotRangeClipping → False]
```

Out[9]=

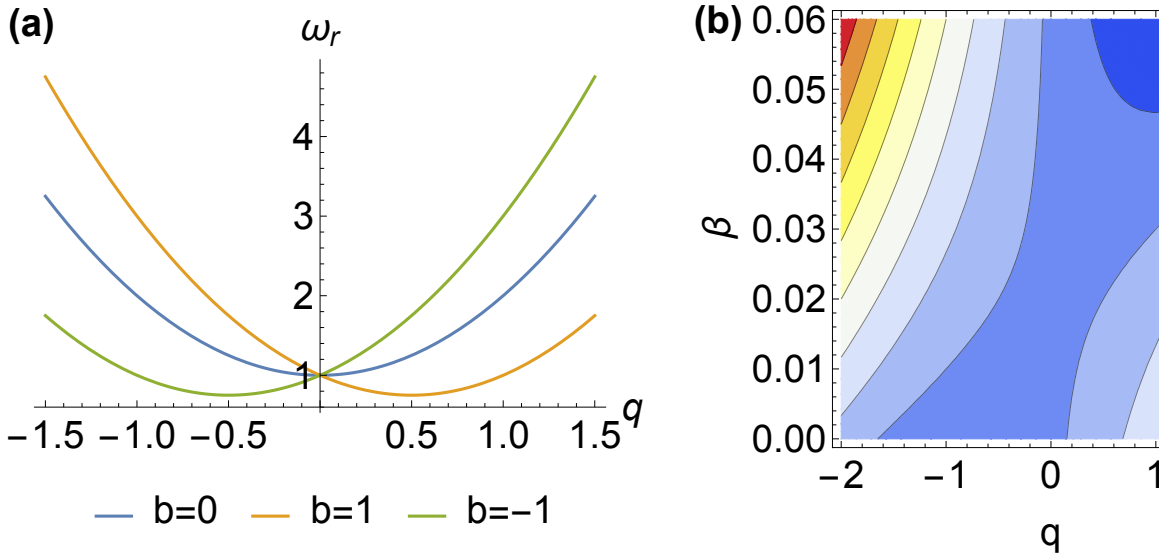


In[10]:=

In[11]:=

In[12]:=
```
fig = Grid[{{pa, pb}}, Spacings → 0]
```

Out[12]=



In[13]:=
```
filename = FileNameJoin[{NotebookDirectory[], "wr_wi.pdf"}];
Export[filename, fig];
```