## **Mean-field solution**

## **Evaluate notebook**

```
In[*]:= Needs ["MaTeX`"]
```

- Plots
- □ Loading the data from files ...

```
    Putting all together

       ListPlot[{b50, b150, b250, b350}, FrameLabel →
In[@]:=
         { MaTeX["\\tilde{J}", Magnification \rightarrow 2], MaTeX["\\chi_b", Magnification \rightarrow 2]},
        PlotRange → {0, 1}, Joined → False, PlotMarkers → "OpenMarkers",
        Frame → True, (*PlotStyle→{Darker[Blue]}, *)
        FrameStyle \rightarrow Directive[Black, 16], ImageSize \rightarrow 500,
        PlotLabel → Style[MaTeX["\\text{Mean-field at different lattice sizes}",
           Magnification → 1.8], 20, Black]]
                              38
                        Mean-field at different lattice sizes
            1.0
            8.0
                                                                                  \ell = 50 
            0.6
                                                                                \Delta \ell = 150
        \chi_b
Out[@]=
                                                                                  \ell = 250 
            0.4
                                                                                0.2
            0.0
                              0.2
                                             0.4
                                                                           8.0
                                                            0.6
                                              \tilde{J}
```

```
In[@]:=
       ListPlot[ {c50, c150, c250, c350}, FrameLabel →
         { MaTeX["\\tilde{J}", Magnification \rightarrow 2], MaTeX["\\chi_c", Magnification \rightarrow 2]},
        PlotRange → {0.01, -.4}, Joined → False, PlotMarkers → "OpenMarkers",
        Frame → True, (*PlotStyle→{Darker[Blue]}, *)
        FrameStyle → Directive[Black, 16], ImageSize → 500,
            PlotLabel → Style[MaTeX["\\text{Mean-field at different lattice sizes}",
           Magnification → 1.8], 20, Black]]
            -0.1
                                                                              • \ell = 50
        \stackrel{\circ}{\sim} -0.2
                                                                              \Delta \ell = 150
Out[*]=
                                                                                 \ell = 250
                                                                              -0.3
            -0.4 L
                               0.2
                                             0.4
                                                           0.6
                                                                         8.0
                                             \tilde{J}
```