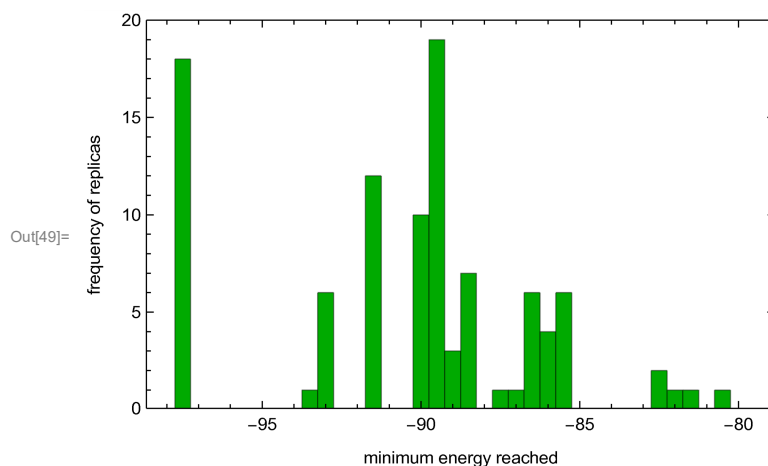


Brendan Philbin

Thermal Annealing Analysis

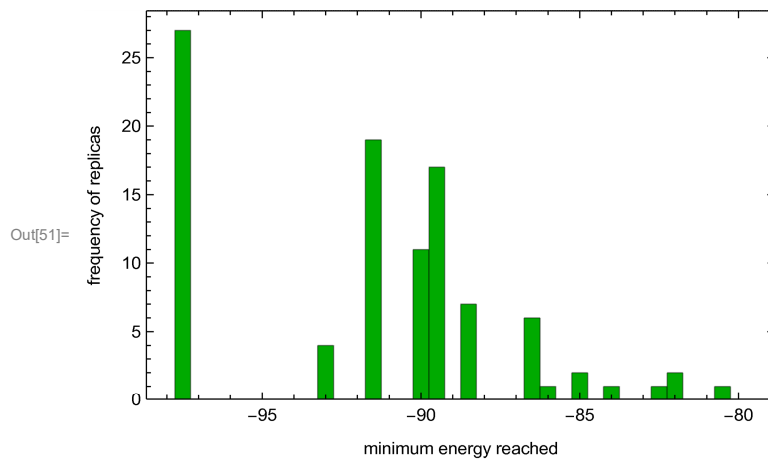
Trial 1 (no annealing): $N=64$, $M=100$, $R=100$, $J=2$, $S=3$, $C=4$,
 $\beta=5$

```
In[47]:= SetDirectory[NotebookDirectory[]];  
trial1 = Flatten[Import["histogram1.csv", "CSV"]];  
Histogram[trial1, 100, ChartStyle -> Darker[Green], Frame -> True,  
FrameLabel -> {"minimum energy reached", "frequency of replicas"}]
```



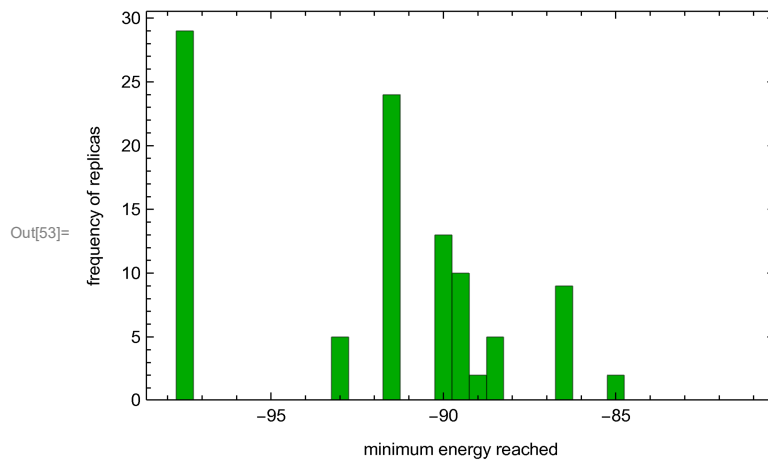
Trial 2 (no annealing): N=64, M=200, R=100, J=2, S=4, C=5, $\beta=5$

```
In[50]:= trial2 = Flatten[Import["histogram2.csv", "CSV"]];
Histogram[trial2, 100, ChartStyle -> Darker[Green], Frame -> True,
FrameLabel -> {"minimum energy reached", "frequency of replicas"}]
```



Trial 3 (no annealing): N=64, M=400, R=100, J=2, S=5, C=6, $\beta=5$

```
In[52]:= trial3 = Flatten[Import["histogram3.csv", "CSV"]];
Histogram[trial3, 100, ChartStyle -> Darker[Green], Frame -> True,
FrameLabel -> {"minimum energy reached", "frequency of replicas"}]
```



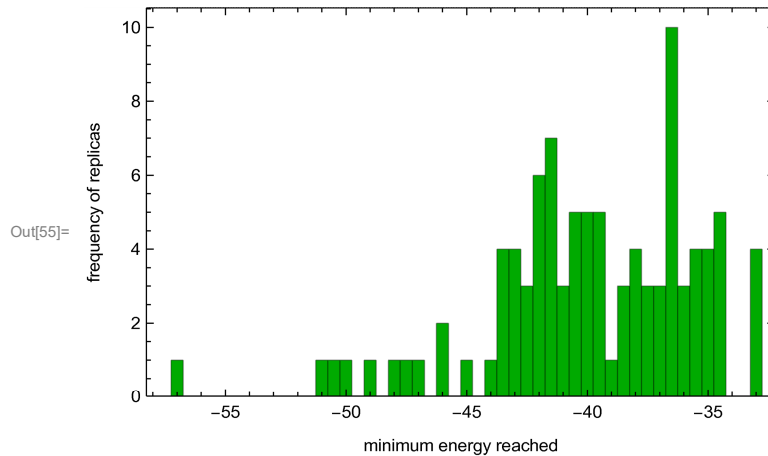
Trial 4 (w/ annealing): N=64, M=100, R=100, J=2, S=3, C=4,

$\beta=5$

```

In[54]:= trial4 = Flatten[Import["histogram4.csv", "CSV"]];
Histogram[trial4, 100, ChartStyle → Darker[Green], Frame → True,
  FrameLabel → {"minimum energy reached", "frequency of replicas"}]

```

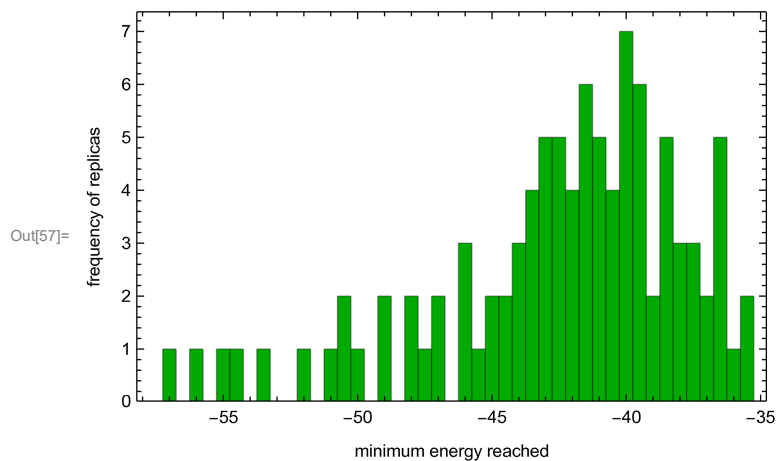


Trial 5 (w/ annealing): N=64, M=200, R=100, J=2, S=4, C=5,
 $\beta=5$

```

In[56]:= trial5 = Flatten[Import["histogram5.csv", "CSV"]];
Histogram[trial5, 100, ChartStyle → Darker[Green], Frame → True,
  FrameLabel → {"minimum energy reached", "frequency of replicas"}]

```



Trial 6 (w/ annealing): N=64, M=400, R=100, J=2, S=5, C=6, $\beta=5$

```
In[58]:= trial6 = Flatten[Import["histogram6.csv", "CSV"]];  
Histogram[trial6, 100, ChartStyle -> Darker[Green], Frame -> True,  
FrameLabel -> {"minimum energy reached", "frequency of replicas"}]
```

