

There are  $2^N$  many  
body levels with energy

$$E = \sum_{\alpha=1}^N n_{\alpha} \varepsilon_{\alpha},$$

where  $n_{\alpha} = 0, 1$ . Shown  
are all values of  $E$  for a  
single cluster of size  
 $N = 12$ . The  $\varepsilon_{\alpha}$  have a  
level spacing  $\sim 1/N$ .