Non-Uniform B-Field exerts force on Silver atoms (via \( L \))

- direction of force depends on direction of angular momentum
Angular Momentum of Silver atoms can point in ANY direction

- wide variety of force directions
- single broad distribution of silver on screen
Two distinct bands of silver atoms were observed

- direction of angular momentum is clearly quantized!
Angular Momentum of Silver atoms can ONLY point: $\uparrow$  $\downarrow$  $\rightarrow$

- beam experiences only three force directions
- all possible $L$-values $\Rightarrow$ an odd number of bands