

$$\vec{\partial}_s Y_{lm}(\hat{n}) = \sqrt{(\ell-s)(\ell+s+1)}_{s+1} Y_{lm}(\hat{n})$$

$$\overleftarrow{\partial}_s Y_{lm}(\hat{n}) = -\sqrt{(\ell+s)(\ell-s+1)}_{s-1} Y_{lm}(\hat{n})$$