

$$H_{ss}^{(4)} = \frac{\theta}{12} \left[ 35S_z^4 - 30S^2 S_z^2 + 25S_z^2 - 6S^2 + 3S^4 \right] \\ + \frac{\theta_D}{24} \left\{ 35S_z^4 - 30S^2 S_z^2 + 25S_z^2 - 6S^2 + 3S^4 \right\} (J - S)^2 \}$$