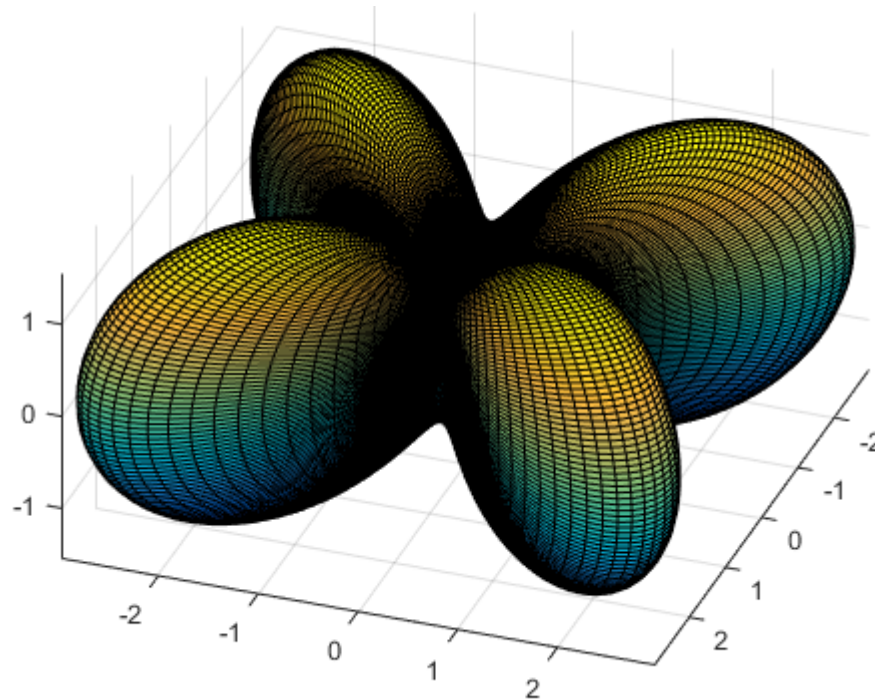


Vyzařovací diagram kvadrupólu

$$\begin{aligned} F(\vartheta, \varphi) = & (Q_1/2 + Q_2)^2 \sin^2(2\vartheta) \sin^2 \varphi \\ & + (Q_1 + Q_2/2)^2 \sin^2(2\vartheta) \cos^2 \varphi \\ & + \left((Q_2 - Q_1)/2 \right)^2 \sin^4 \vartheta \sin^2(2\varphi) \end{aligned}$$

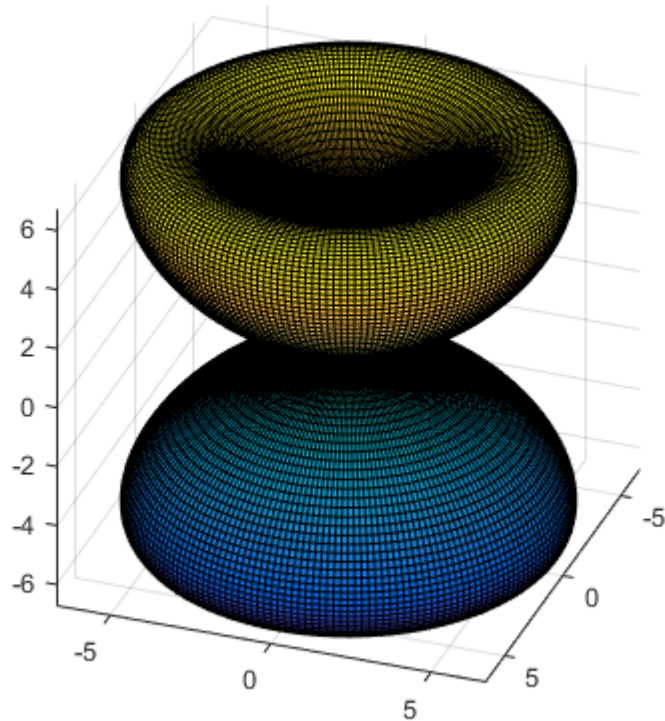
$$Q_1 = 2, \quad Q_2 = -2$$



Vyzařovací diagram kvadrupólu

$$\begin{aligned} F(\vartheta, \varphi) = & (Q_1/2 + Q_2)^2 \sin^2(2\vartheta) \sin^2 \varphi \\ & + (Q_1 + Q_2/2)^2 \sin^2(2\vartheta) \cos^2 \varphi \\ & + \left((Q_2 - Q_1)/2 \right)^2 \sin^4 \vartheta \sin^2(2\varphi) \end{aligned}$$

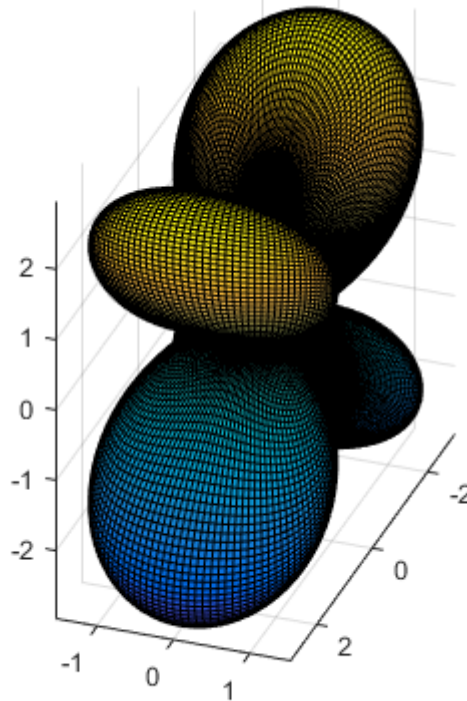
$$Q_1 = 2, \quad Q_2 = 2$$



Vyzařovací diagram kvadrupólu

$$\begin{aligned} F(\vartheta, \varphi) = & (Q_1/2 + Q_2)^2 \sin^2(2\vartheta) \sin^2 \varphi \\ & + (Q_1 + Q_2/2)^2 \sin^2(2\vartheta) \cos^2 \varphi \\ & + \left((Q_2 - Q_1)/2 \right)^2 \sin^4 \vartheta \sin^2(2\varphi) \end{aligned}$$

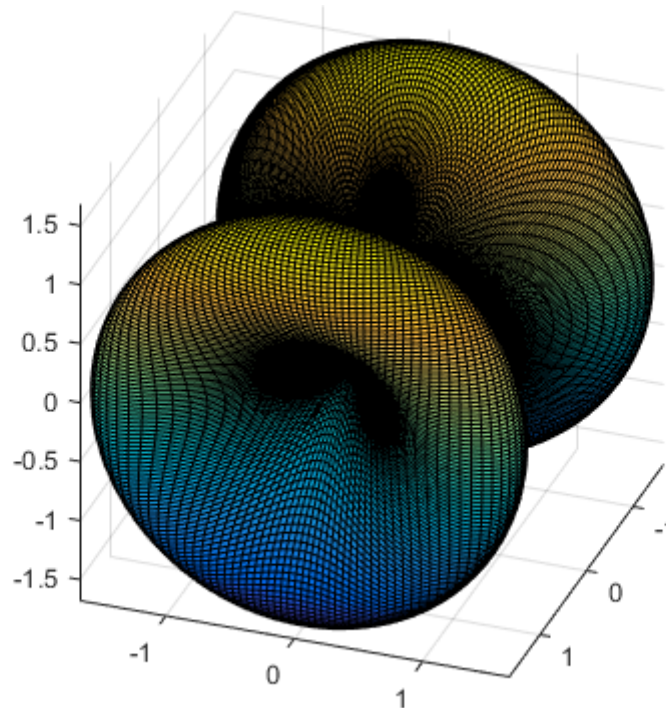
$$Q_1 = 2, \quad Q_2 = 0$$



Vyzařovací diagram kvadrupólu

$$\begin{aligned} F(\vartheta, \varphi) = & (Q_1/2 + Q_2)^2 \sin^2(2\vartheta) \sin^2 \varphi \\ & + (Q_1 + Q_2/2)^2 \sin^2(2\vartheta) \cos^2 \varphi \\ & + \left((Q_2 - Q_1)/2 \right)^2 \sin^4 \vartheta \sin^2(2\varphi) \end{aligned}$$

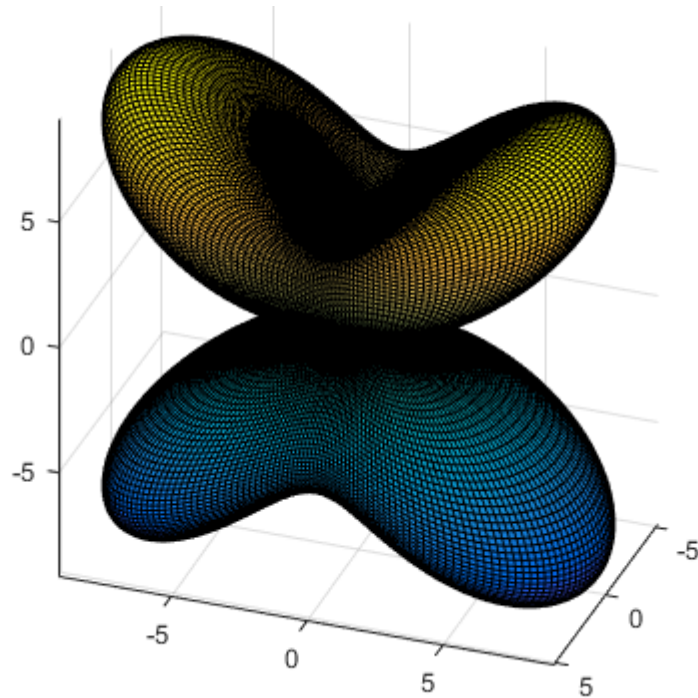
$$Q_1 = 2, \quad Q_2 = -1$$



Vyzařovací diagram kvadrupólu

$$\begin{aligned} F(\vartheta, \varphi) = & (Q_1/2 + Q_2)^2 \sin^2(2\vartheta) \sin^2 \varphi \\ & + (Q_1 + Q_2/2)^2 \sin^2(2\vartheta) \cos^2 \varphi \\ & + \left((Q_2 - Q_1)/2 \right)^2 \sin^4 \vartheta \sin^2(2\varphi) \end{aligned}$$

$$Q_1 = 1, \quad Q_2 = -3$$



Vyzařovací diagram kvadrupólu

$$\begin{aligned} F(\vartheta, \varphi) = & (Q_1/2 + Q_2)^2 \sin^2(2\vartheta) \sin^2 \varphi \\ & + (Q_1 + Q_2/2)^2 \sin^2(2\vartheta) \cos^2 \varphi \\ & + \left((Q_2 - Q_1)/2 \right)^2 \sin^4 \vartheta \sin^2(2\varphi) \end{aligned}$$

$$Q_1 = -2.5, \quad Q_2 = 3$$

