Parciální derivace zlomku

$$f(x,y) = \frac{x-y}{x+y}$$

$$f_x = \frac{(x+y) - (x-y)}{(x+y)^2} = \frac{2y}{(x+y)^2} = 2y(x+y)^{-2}$$

$$f_{xy} = 2(x+y)^{-2} + 2y \cdot (-2)(x+y)^{-3} = \frac{2(x+y) - 4y}{(x+y)^3} = \frac{2x+2y-4y}{(x+y)^3} = \frac{2x-2y}{(x+y)^3}$$

$$f_y = \frac{-(x+y) - (x-y)}{(x+y)^2} = \frac{-2x}{(x+y)^2} = -2x(x+y)^{-2}$$

$$f_{yx} = -2(x+y)^{-2} - 2x \cdot (-2)(x+y)^{-3} = \frac{-2(x+y) + 4x}{(x+y)^3} = \frac{-2x-2y+4y}{(x+y)^3} = \frac{2x-2y}{(x+y)^3}$$